

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Susy Tsang - Foster Examiner #: 76063 Date: 9/9/02  
 Art Unit: 1745 Phone Number: 305-0588 Serial Number: 09/582,432  
 Mail Box and Bldg/Room Location: CP3 8A09 Results Format Preferred (circle) PAPER ~~DISK~~

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*  
 Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Polymer Electrolyte and Nonaqueous battery containing the same  
 Inventors (please provide full names): please see attached sheet

Earliest Priority Filing Date: 12/26/1997

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search for a polymer electrolyte comprising: a vinylidene fluoride copolymer ~~and nonaqueous electrolyte (electrolyte) solution~~ where the vinylidene fluoride copolymer comprises 80 to 97 weight % vinylidene fluoride monomer units and 3 to 20 wt% of units of at least one monomer copolymerizable with the vinylidene fluoride monomer and the copolymer has an inherent viscosity of 1.5 to 10 dl/g and the at least one monomer copolymerizable with the vinylidene fluoride comprises a mixture of hexafluoropropylene monomer and trifluorochloroethylene monomer.

Please note that the copolymer having an inherent viscosity of 1.5 to 10 dl/g is equivalent to the copolymer having a molecular weight (average molecular weight, MW,  $MW_{or}$ ) of 430,672 to 3,393,007.  
 synonyms: ~~homogeneous electrolyte solution~~ = organic solvent electrolyte  
 copolymer = polymer = terpolymer & terms used synonymously no matter how many type monomers

## STAFF USE ONLY

Searcher: ED  
 Searcher Phone #: \_\_\_\_\_  
 Searcher Location: \_\_\_\_\_  
 Date Searcher Picked Up: \_\_\_\_\_  
 Date Completed: 9-25-02  
 Searcher Prep & Review Time: 5  
 Online Time: 60

## Type of Search

NA Sequence (#) \_\_\_\_\_ STN \$320.16  
 AA Sequence (#) \_\_\_\_\_ Dialog \_\_\_\_\_  
 Structure (#) (1) Questel/Orbit \_\_\_\_\_  
 Bibliographic (and) Link \_\_\_\_\_  
 Litigation \_\_\_\_\_ Lexis/Nexis \_\_\_\_\_  
 Fulltext \_\_\_\_\_ Sequence Systems \_\_\_\_\_  
 Patent Family \_\_\_\_\_ WWW/Internet \_\_\_\_\_  
 Other \_\_\_\_\_ Other (specify) \_\_\_\_\_

## Vendors and cost where applicable

=> file reg

FILE 'REGISTRY' ENTERED AT 16:46:08 ON 25 SEP 2002  
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=> d his

FILE 'REGISTRY' ENTERED AT 16:24:11 ON 25 SEP 2002

E VINYLIDENE FLUORIDE/CN  
L1 1 SEA "VINYLIDENE FLUORIDE"/CN  
D RN  
L2 1860 SEA 75-38-7/CRN  
E HEXAFLUOROPROPYLENE/CN  
L3 1 SEA HEXAFLUOROPROPYLENE/CN  
D RN  
L4 1406 SEA 116-15-4/CRN  
E TRIFLUOROCHLOROETHYLENE/CN  
L5 1 SEA TRIFLUOROCHLOROETHYLENE/CN  
D RN  
L6 3057 SEA 79-38-9/CRN  
L7 25 SEA L2 AND L4 AND L6

FILE 'CAOLD' ENTERED AT 16:28:59 ON 25 SEP 2002

L8 0 SEA L7

FILE 'ZCAPLUS' ENTERED AT 16:29:09 ON 25 SEP 2002

L9 41 SEA L7  
L10 444960 SEA VISC? OR RHEOL? OR ELECTROVISC? OR ELECTORRHEOL?  
L11 49680 SEA (INTRINS? OR INHERENT?) (3A) VISC? OR (DL OR DECILITER#  
OR DECILITRE#) (2A) (G OR GM# OR GRAM#)  
L12 540279 SEA (MOL# OR MOLECULAR?) (2A) (WEIGH? OR WT#) OR MW OR  
M(W)W OR MWAV  
L13 15 SEA L9 AND (L10 OR L11 OR L12)  
L14 26 SEA L9 NOT L13  
L15 392518 SEA ELECTROLY?  
L16 179228 SEA BATTERY OR BATTERIES OR (ELECTROLY? OR ELECTROCHEM?  
OR GALVANI? OR WET OR DRY OR PRIMARY OR SECONDARY) (2A) (CE  
LL OR CELLS)  
L17 7 SEA L9 AND (L15 OR L16)  
L18 19 SEA L13 OR L17  
L19 22 SEA L9 NOT L18  
L20 7 SEA L9 AND (52 OR 72)/SC, SX  
L21 19 SEA L13 OR L17 OR L20  
L22 22 SEA L9 NOT L21  
L23 39064 SEA NONAQ# OR NONAQUEOUS? OR NON(A) (AQ# OR AQUEOUS? OR  
WATER? OR H2O) OR NONWATER? OR NONH2O  
L24 1 SEA L9 AND L23  
L25 19 SEA L24 OR L21  
L26 22 SEA L9 NOT L25

=> file zcaplus  
 FILE 'ZCAPLUS' ENTERED AT 16:46:32 ON 25 SEP 2002  
 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
 PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
 COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS)

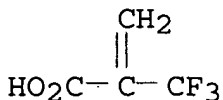
=> d l25 1-19 cbib abs hitstr hitind

L25 ANSWER 1 OF 19 ZCAPLUS COPYRIGHT 2002 ACS  
 2002:672384 Fluoropolymer gel composition for **electrolyte** in  
 lithium ion **battery**. Kanega, Atsushi; Enokida, Takashi;  
 Nakamura, Seiichi (Nippon Mectron Co., Ltd., Japan). Jpn. Kokai  
 Tokkyo Koho JP 2002249589 A2 20020906, 7 pp. (Japanese). CODEN:  
 JKXXAF. APPLICATION: JP 2001-47510 20010223.  
 AB The title compn. contains a carboxyl group- and F-contg. copolymer  
 comprising vinylidene fluoride 80-98, fluoroolefin monomer other  
 than vinylidene fluoride 0-20, and F-contg. unsatd. carboxylic acid  
 monomer R1R2C:CR3CO2H (R1-R3 = H, F, or C1-6 halogen-substituted  
 alkyl; .gtoreq.1 of R1-R3 is F or halogen-substituted alkyl) 0.1-20  
 mol.% and a Li salt-dissolving org. solvent. The title Li ion  
**battery** is equipped with a gel polymer **electrolyte**  
 contg. the above compn. and a Li salt. The compn. has high heat  
 resistance and swelling property.  
 IT **453568-92-8DP**, lithium complexes **453568-93-9DP**,  
 lithium complexes  
 (fluoropolymer gel compn. for **electrolyte** in lithium  
 ion **battery**)  
 RN **453568-92-8** ZCAPLUS  
 CN 2-Propenoic acid, 2-(trifluoromethyl)-, polymer with  
 chlorotrifluoroethene, 1,1-difluoroethene and 1,1,2,3,3,3-hexafluoro-  
 1-propene (9CI) (CA INDEX NAME)

CM 1

CRN 381-98-6

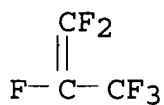
CMF C4 H3 F3 O2



CM 2

CRN 116-15-4

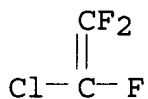
CMF C3 F6



CM 3

CRN 79-38-9

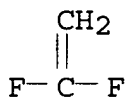
CMF C2 Cl F3



CM 4

CRN 75-38-7

CMF C2 H2 F2



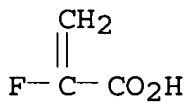
RN 453568-93-9 ZCAPLUS

CN 2-Propenoic acid, 2-fluoro-, polymer with chlorotrifluoroethene,  
1,1-difluoroethene and 1,1,2,3,3,3-hexafluoro-1-propene (9CI) (CA  
INDEX NAME)

CM 1

CRN 430-99-9

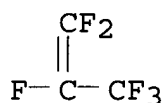
CMF C3 H3 F O2



CM 2

CRN 116-15-4

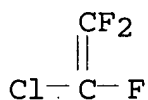
CMF C3 F6



CM 3

CRN 79-38-9

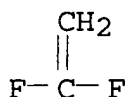
CMF C2 Cl F3



CM 4

CRN 75-38-7

CMF C2 H2 F2



IC ICM C08J003-075

ICS C08K003-16; C08L027-16; H01M010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

Section cross-reference(s): 38

ST carboxyl fluoropolymer gel compn **electrolyte** lithium **battery**

IT Fluoropolymers

(carboxy-contg., lithium complexes; fluoropolymer gel compn. for **electrolyte** in lithium ion **battery**)IT **Battery electrolytes**

Gels

(fluoropolymer gel compn. for **electrolyte** in lithium ion **battery**)IT Secondary **batteries**(lithium; fluoropolymer gel compn. for **electrolyte** in lithium ion **battery**)IT 7439-93-2DP, Lithium, carboxyl group-contg. fluoropolymer complexes  
453568-91-7DP, lithium complexes 453568-92-8DP, lithium  
complexes 453568-93-9DP, lithium complexes  
453568-94-0DP, lithium complexes

(fluoropolymer gel compn. for **electrolyte** in lithium ion **battery**)

IT 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate (solvent; fluoropolymer gel compn. for **electrolyte** in lithium ion **battery**)

L25 ANSWER 2 OF 19 ZCAPLUS COPYRIGHT 2002 ACS

2002:428980 Document No. 137:7326 Composition and method for making a fluoroelastomer. Hare, Erik D.; Coggio, William D.; Hintzer, Klaus; Kolb, Robert E.; Scott, Peter J.; Verschuere, Alain; Kaspar, Harald (3M Innovative Properties Company, USA). PCT Int. Appl. WO 2002044265 A2 20020606, 27 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US44529 20011129. PRIORITY: US 2000-PV250457 20001201; US 2001-PV336474 20011031.

AB A compn. and method for making a fluoroelastomer is disclosed. The compn. comprises a fluoroelastomer contg. chlorine and an org. compd. contg. at least an hydride function. The hydride function has the formula MH where M is= Si, Ge, Sn, or Pb. Thus, a polymer compn. comprising vinylidene fluoride 44, tetrafluoroethylene 21, hexafluoropropylene 27, and chlorotrifluoroethylene 8% having a Mooney **viscosity** (ML 1 + 10 at 121.degree. ASTM D 1646) 35 100, N 990 carbon black 30, calcium hydroxide 3, Varox DBPH-50 2.5, triallylisocyanurate 3.5, and triphenylsilane 2 parts were placed on a two-roll mill and cured.

IT 433718-33-3P 433718-34-4P

(compn. and method for making a fluoroelastomer)

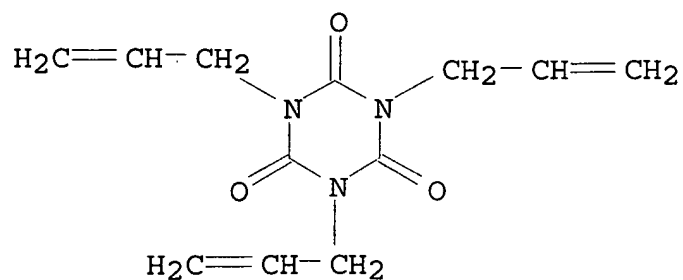
RN 433718-33-3 ZCAPLUS

CN 1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tri-2-propenyl-, polymer with chlorotrifluoroethene, 1,1-difluoroethene, 1,1,2,3,3,3-hexafluoro-1-propene and tetrafluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 1025-15-6

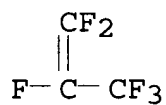
CMF C12 H15 N3 O3



CM 2

CRN 116-15-4

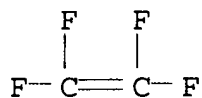
CMF C3 F6



CM 3

CRN 116-14-3

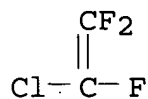
CMF C2 F4



CM 4

CRN 79-38-9

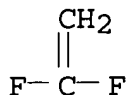
CMF C2 Cl F3



CM 5

CRN 75-38-7

CMF C2 H2 F2



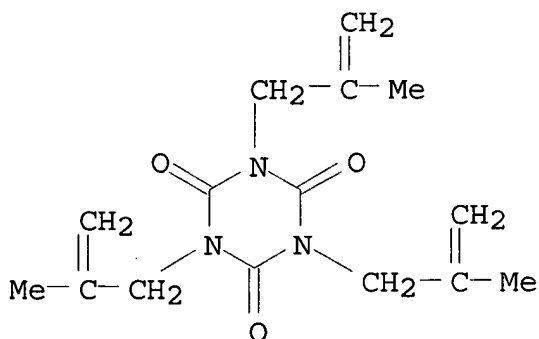
RN 433718-34-4 ZCAPLUS

CN 1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tris(2-methyl-2-propenyl)-, polymer with chlorotrifluoroethene, 1,1-difluoroethene, 1,1,2,3,3,3-hexafluoro-1-propene and tetrafluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 6291-95-8

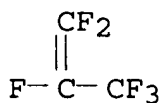
CMF C15 H21 N3 O3



CM 2

CRN 116-15-4

CMF C3 F6

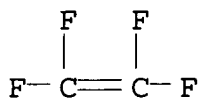


CM 3

CRN 116-14-3

CMF C2 F4

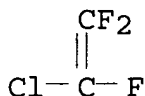




CM 4

CRN 79-38-9

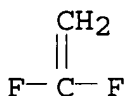
CMF C2 Cl F3



CM 5

CRN 75-38-7

CMF C2 H2 F2



IC ICM C08L027-16

ICS C08K005-54; B32B027-30

CC 39-4 (Synthetic Elastomers and Natural Rubber)

IT 164914-12-9P 433718-33-3P 433718-34-4P

(compn. and method for making a fluoroelastomer)

L25 ANSWER 3 OF 19 ZCAPLUS COPYRIGHT 2002 ACS

2002:313432 Document No. 136:328171 Secondary lithium ion

**battery** separators and secondary lithium ion**batteries** showing overcharging safety. Nishikawa, Satoshi;

Omichi, Takahiro; Minematsu, Hiromasa (Teijin Ltd., Japan). Jpn.

Kokai Tokkyo Koho JP 2002124241 A2 20020426, 6 pp. (Japanese).

CODEN: JKXXAF. APPLICATION: JP 2000-313455 20001013.

AB The title **batteries** comprise Li-contg. transition metal oxide cathodes and Li-intercalating carbonaceous anodes and show impedance at 250% charge rate (based on rated capacity) limited to .ltoreq.110% of that at 60% charge rate. Separators for limiting the impedance under the above stated conditions and **batteries** including the separators are also claimed. Abnormal generation of heat and decompn. of **electrolytes** are prevented on overcharging.

IT 25101-47-7, Chlorotrifluoroethylene-hexafluoropropylene-vinylidene fluoride copolymer

(separators; separators for safe secondary lithium ion  
**batteries** showing limited impedance increase on  
 overcharging)

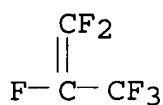
RN 25101-47-7 ZCAPLUS

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with  
 chlorotrifluoroethene and 1,1-difluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

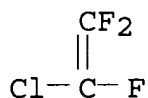
CMF C3 F6



CM 2

CRN 79-38-9

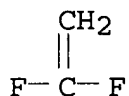
CMF C2 Cl F3



CM 3

CRN 75-38-7

CMF C2 H2 F2



IC ICM H01M002-16

ICS H01M010-40; H01M010-48

CC **52-2** (Electrochemical, Radiational, and Thermal Energy  
 Technology)

Section cross-reference(s): 40

ST safety secondary lithium ion **battery** separator; impedance  
 control secondary lithium **battery** overcharging safety

IT Polyamide fibers, uses

(aramid, separators; separators for safe secondary lithium ion  
**batteries** showing limited impedance increase on

- overcharging)
- IT Polythiophenylenes  
(fiber, separators; separators for safe secondary lithium ion **batteries** showing limited impedance increase on overcharging)
- IT Secondary **batteries**  
(lithium; separators for safe secondary lithium ion **batteries** showing limited impedance increase on overcharging)
- IT Synthetic polymeric fibers, uses  
(polythiophenylenes, separators; separators for safe secondary lithium ion **batteries** showing limited impedance increase on overcharging)
- IT Electric impedance  
Secondary **battery** separators  
(separators for safe secondary lithium ion **batteries** showing limited impedance increase on overcharging)
- IT Fluoropolymers, uses  
(separators; separators for safe secondary lithium ion **batteries** showing limited impedance increase on overcharging)
- IT Polyesters, uses  
(short fiber, separators; separators for safe secondary lithium ion **batteries** showing limited impedance increase on overcharging)
- IT 412928-50-8, Celgard TM 2400  
(separators for safe secondary lithium ion **batteries** showing limited impedance increase on overcharging)
- IT 25101-47-7, Chlorotrifluoroethylene-hexafluoropropylene-vinylidene fluoride copolymer  
(separators; separators for safe secondary lithium ion **batteries** showing limited impedance increase on overcharging)
- IT 25038-59-9, Poly(ethylene terephthalate), uses  
(short fiber, separators; separators for safe secondary lithium ion **batteries** showing limited impedance increase on overcharging)

L25 ANSWER 4 OF 19 ZCAPLUS COPYRIGHT 2002 ACS

2002:292158 Document No. 136:328117 Secondary lithium **battery** separator and the **battery**. Nishikawa, Satoshi; Omichi, Takahiro; Minematsu, Hiromasa (Teijin Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002117827 A2 20020419, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-310483 20001011.

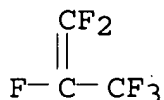
- AB The separator is an org. **electrolyte** impregnated separator, capable of suppressing gas generation during overcharge of the **battery**.
- IT 25101-47-7, Chlorotrifluoroethylene-hexafluoropropylene-vinylidene fluoride copolymer  
(aramid fiber reinforced punched fluoropolymer membranes for gas preventing separators in secondary lithium **batteries**)
- RN 25101-47-7 ZCAPLUS

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with  
chlorotrifluoroethene and 1,1-difluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

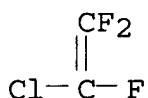
CMF C3 F6



CM 2

CRN 79-38-9

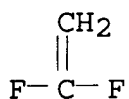
CMF C2 Cl F3



CM 3

CRN 75-38-7

CMF C2 H2 F2



IC ICM H01M002-16

ICS H01M010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy  
Technology)

ST secondary lithium **battery** gas producing preventing  
separator

IT Polyamide fibers, uses  
(aramid; aramid fiber reinforced punched fluoropolymer membranes  
for gas preventing separators in secondary lithium  
**batteries**)

IT Secondary **battery** separators  
(**electrolyte** impregnated secondary lithium  
**battery** separators for preventing gas generation during  
overcharge)

IT 25101-47-7, Chlorotrifluoroethylene-hexafluoropropylene-vinylidene fluoride copolymer  
(aramid fiber reinforced punched fluoropolymer membranes for gas preventing separators in secondary lithium **batteries**)

IT 412928-50-8, Celgard TM 2400  
(punched polymer membranes for gas preventing separators in secondary lithium **batteries**)

L25 ANSWER 5 OF 19 ZCAPLUS COPYRIGHT 2002 ACS  
2002:107741 Document No. 136:153927 Polymer **electrolyte** for secondary lithium ion **batteries**. Jarvis, Christine Ruth; Macklin, Alison Jane; Macklin, William James; Coowar, Fazlil (Accentus P.L.C., UK). PCT Int. Appl. WO 2002011230 A1 20020207, 18 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-GB3165 20010713. PRIORITY: GB 2000-18635 20000731.

AB A polymer **electrolyte** comprises a polymer combined with a soln. of a salt in a plasticizing solvent, and the polymer is a terpolymer of vinylidene fluoride, hexafluoropropylene, and chlorotrifluoroethylene. The proportion by wt. of vinylidene fluoride is at least 85%. The polymer has a large enough mol. wt. that its melt flow index, at 230.degree. and 21.6 kg, is less than 5.0 g/10 min. The resulting polymer **electrolyte** may be referred to as a solid **electrolyte** or a gelled **electrolyte**, and is suitable for use as the separator/**electrolyte** in an **electrochem. cell**, such as a **secondary lithium ion cell**.

IT 25101-47-7, Chlorotrifluoroethylene-hexafluoropropylene-vinylidene fluoride copolymer  
(polymer **electrolyte** for secondary lithium ion **batteries**)

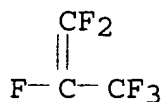
RN 25101-47-7 ZCAPLUS

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with chlorotrifluoroethene and 1,1-difluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

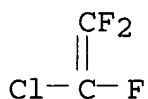
CMF C3 F6



CM 2

CRN 79-38-9

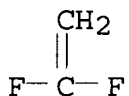
CMF C2 Cl F3



CM 3

CRN 75-38-7

CMF C2 H2 F2



IC ICM H01M010-40

ICS H01M002-16; C08L027-16; H01B001-12

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

Section cross-reference(s): 38

ST lithium **battery** polymer **electrolyte** separatorIT Secondary **batteries**(lithium; polymer **electrolyte** for secondary lithium ion **batteries**)IT **Battery electrolytes**Polymer **electrolytes**Secondary **battery** separators(polymer **electrolyte** for secondary lithium ion **batteries**)

IT 25101-47-7, Chlorotrifluoroethylene-hexafluoropropylene-vinylidene fluoride copolymer

(polymer **electrolyte** for secondary lithium ion **batteries**)

L25 ANSWER 6 OF 19 ZCAPLUS COPYRIGHT 2002 ACS

2002:90715 Document No. 136:264308 Synthesis and Properties of Novel Fluorotelechelic Macrodiols Containing Vinylidene Fluoride,

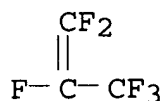
Hexafluoropropene and Chlorotrifluoroethylene. Saint-Loup, R.; Manseri, A.; Ameduri, B.; Le Bret, B.; Vignane, P. (Laboratory of Macromolecular Chemistry, UMR (CNRS) 5076, Ecole Nationale Supérieure de Chimie de Montpellier, Montpellier, 34296, Fr.). *Macromolecules*, 35(5), 1524-1536 (English) 2002. CODEN: MAMOBX. ISSN: 0024-9297. Publisher: American Chemical Society.

- AB The dead-end radical copolymn. of 1,1-difluoroethylene (or vinylidene fluoride, VDF or VF<sub>2</sub>) with hexafluoropropene (HFP) initiated by hydrogen peroxide for obtaining original fluorinated telechelic elastomers is presented. The influence of the process (soln. or emulsion) and the nature and amts. of solvents were studied. Various initial [H<sub>2</sub>O<sub>2</sub>]<sub>i</sub>/[fluoroolefins]<sub>i</sub> molar ratios, ranging from 5 to 40%, were used, showing that the higher the hydrogen peroxide amt., the lower the **mol. wts.** of the polymers obtained leading to fluorinated telechelics. Hence, low **mol. wt.** copolymers, the Mn of which ranged from 800 to 3200, were synthesized. A careful structural anal. of these fluorinated telechelics was performed and enabled one to det. the fluorinated base units of both alkenes in the copolymers. Interestingly, these liq. to oily products exhibited low glass transition temps. (from -80 to -40 .degree.C). The mechanism of the reaction was approached and showed that the hydroxyl radical generated from hydrogen peroxide reacted to the hydrogenated carbon atoms of VDF but also to the fluorinated carbons of VDF and HFP, yielding COOH end groups, and is discussed. The selective redn. of these carboxylic end groups was achieved in the presence of lithium aluminum hydride leading to fluorinated telechelic diols.
- IT **25101-47-7DP**, Chlorotrifluoroethylene-hexafluoropropylene-vinylidene fluoride copolymer, telechelic derivs. (rubber; prepn. and properties of)
- RN **25101-47-7** ZCAPLUS
- CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with chlorotrifluoroethene and 1,1-difluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

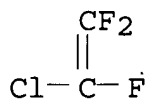
CMF C3 F6



CM 2

CRN 79-38-9

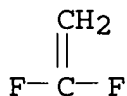
CMF C2 Cl F3



CM 3

CRN 75-38-7

CMF C2 H2 F2



CC 39-4 (Synthetic Elastomers and Natural Rubber)

IT 9011-17-0DP, Hexafluoropropylene-vinylidene fluoride copolymer, telechelic derivs. **25101-47-7DP**, Chlorotrifluoroethylene-hexafluoropropylene-vinylidene fluoride copolymer, telechelic derivs.

(rubber; prepn. and properties of)

L25 ANSWER 7 OF 19 ZCAPLUS COPYRIGHT 2002 ACS

2001:738344 Document No. 135:291353 Gel polymer compositions and their manufacture for **battery electrolytes**. Kanega, Atsushi; Enokida, Takashi (Nippon Mectron Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001279044 A2 20011010, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-281101 20000918. PRIORITY: JP 2000-14318 20000124.

AB The gel polymer comps. contain a Li salt solvent in a copolymer contg. vinylidene fluoride 92-97, hexafluoropropylene 1-4, and chlorotrifluoroethylene 1-7 mol%, m. 30-160.degree., having no. av. **mol. wt.** 150,000-300,000, and logarithmic **viscosity** 1.0-1.4 dL/g. The polymers are prepd. by 1st charging the whole amt. of chlorotrifluoroethylene in a reaction vessel, charging hexafluoropropylene in 1 or several batches, and charging vinylidene fluoride in several batches.

IT **25101-47-7P**, Chlorotrifluoroethylene-hexafluoropropylene-vinylidene fluoride copolymer

(gel polymer comps. contg. lithium salt solvents and their manuf. for **battery electrolytes**)

RN 25101-47-7 ZCAPLUS

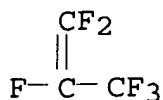
CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with chlorotrifluoroethene and 1,1-difluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

CMF C3 F6

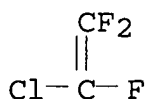




CM 2

CRN 79-38-9

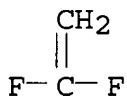
CMF C2 Cl F3



CM 3

CRN 75-38-7

CMF C2 H2 F2



- IC ICM C08L027-16  
ICS C08F002-16; C08F214-22; C08K003-10; C08K005-109; H01M010-40;  
C08F214-28; C08F214-24
- CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
- ST **battery** lithium **electrolyte** gel polymer compn manuf; vinylidene fluoride hexafluoropropylene chlorotrifluoroethylene gel copolymer compn manuf; perfluoropropylene vinylidene fluoride chlorotrifluoroethylene gel copolymer compn manuf
- IT **Battery electrolytes**  
(gel polymer compns. contg. lithium salt solvents and their manuf. for **battery electrolytes**)
- IT 96-49-1P, Ethylene carbonate 108-32-7P, Propylene carbonate 25101-47-7P, Chlorotrifluoroethylene-hexafluoropropylene-vinylidene fluoride copolymer  
(gel polymer compns. contg. lithium salt solvents and their manuf. for **battery electrolytes**)

method. Daido, Takahiro; Igarashi, Satoshi; Nishikawa, Satoshi; Honmoto, Hiroyuki; Minematsu, Hiroyoshi (Teijin Limited, Japan). PCT Int. Appl. WO 2001067536 A1 20010913, 52 pp. DESIGNATED STATES: W: AU, CA, CN, JP, KR, US; RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR. (Japanese). CODEN: PIXXD2. APPLICATION: WO 2001-JP1785 20010307. PRIORITY: JP 2000-61674 20000307; JP 2000-127309 20000427; JP 2000-323795 20001024.

AB The **batteries** have porous sheet separators, cathodes with reversible Li intercalation capacity  $Q_p$ , anodes with reversible Li intercalation capacity  $Q_n$  .ltoreq. $Q_p$ , and the cathode is doped with Li deposited on the anode, when charged at a charging current  $I_c = (0.2-2)Q_n$  to a total charging amt.  $Q_c$  of  $1 < (Q_c/Q_n) < (Q_p/Q_n)$ , and continued to charge until  $Q_c$  becomes  $>Q_p$ . The separators have av. thickness 10-35 .mu.m, base wt. 6-20 g/m<sup>2</sup>, gas permeability <100 s (JIS P8117). The separators are preferably sheets of fibers having av. thickness 0.1-0.5 times the sheet thickness, and the separators may also contain an **electrolyte** retaining-swelling porous polymer membrane inside the sheet. The **battery** packs contain the **batteries** and a heat sensor or heat sensitive switch. The **batteries** are charged at const. current while using the temp. rise, voltage drop, and/or voltage oscillation of the **battery** as indication of the end of charge.

IT 25101-47-7, Chlorotrifluoroethylene-hexafluoropropylene-vinylidene fluoride copolymer  
(specifications of polymer fiber based sheets for separators in secondary lithium **batteries**)

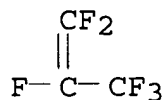
RN 25101-47-7 ZCAPLUS

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with chlorotrifluoroethene and 1,1-difluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

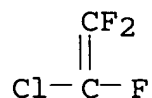
CMF C3 F6



CM 2

CRN 79-38-9

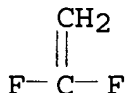
CMF C2 Cl F3



CM 3

CRN 75-38-7

CMF C2 H2 F2



- IC ICM H01M010-40  
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
 ST secondary lithium **battery** separator polymer fiber sheet; charge control secondary lithium **battery**  
 IT Polyamide fibers, uses  
     (aramid; specifications of polymer fiber based sheets for separators in secondary lithium **batteries**)  
 IT Secondary **batteries**  
     (lithium; anode limiting secondary lithium **batteries** with polymer fiber based separators and **battery** charging method)  
 IT Temperature sensors  
     (secondary lithium **battery** packs contg. heat sensors or heat switches)  
 IT Secondary **battery** separators  
     (specifications of polymer fiber based sheets for separators in secondary lithium **batteries**)  
 IT Polyester fibers, uses  
     Polyesters, uses  
     Polypropene fibers, uses  
     (specifications of polymer fiber based sheets for separators in secondary lithium **batteries**)  
 IT Control apparatus  
     (thermal switches; secondary lithium **battery** packs contg. heat sensors or heat switches)  
 IT 25038-59-9, Poly(ethylene terephthalate), uses 25101-47-7, Chlorotrifluoroethylene-hexafluoropropylene-vinylidene fluoride copolymer  
     (specifications of polymer fiber based sheets for separators in secondary lithium **batteries**)

L25 ANSWER 9 OF 19 ZCAPLUS COPYRIGHT 2002 ACS  
 2001:284533 Document No. 135:62064 On the improvement of the processability of UHMW-HDPE by adding a liquid crystalline polymer and a fluoroelastomer. Aiello, Roberto; La Mantia, Francesco Paolo (Dipartimento di Ingegneria Chimica dei Processi e dei Materiali, Universita di Palermo, Palermo, 90128, Italy). Macromolecular Materials and Engineering, 286(3), 176-178 (English) 2001. CODEN:

MMENFA. ISSN: 1438-7492. Publisher: Wiley-VCH Verlag GmbH.

AB Small amts. of a fluoroelastomer and a liq.-cryst. polymer were used as processing aids to improve the extrudability of UHMWPE. The die pressure decreases and the output flow rate slightly increases with increasing concn. of the processing aids. Soln. **viscosity** data shows that redn. of the mech. stress during extrusion decreases the degrdn. of the polyethylene.

IT 95325-75-0, Chlorotrifluoroethylene-hexafluoropropene-tetrafluoroethylene-vinylidene fluoride copolymer (rubber; improved extrusion processability of UHMWPE by addn. of liq.-cryst. polyester and fluoroelastomer)

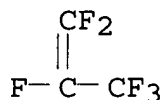
RN 95325-75-0 ZCAPLUS

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with chlorotrifluoroethene, 1,1-difluoroethene and tetrafluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

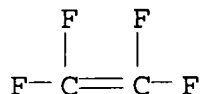
CMF C3 F6



CM 2

CRN 116-14-3

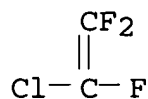
CMF C2 F4



CM 3

CRN 79-38-9

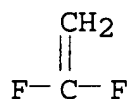
CMF C2 Cl F3



CM 4

CRN 75-38-7

CMF C2 H2 F2

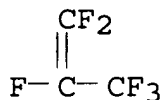


- CC 37-6 (Plastics Manufacture and Processing)  
Section cross-reference(s): 39
- IT 95325-75-0, Chlorotrifluoroethylene-hexafluoropropene-tetrafluoroethylene-vinylidene fluoride copolymer  
(rubber; improved extrusion processability of UHMWPE by addn. of liq.-cryst. polyester and fluoroelastomer)
- IT 9002-88-4, Polyethylene  
(ultra-high mol. wt.; improved extrusion processability of UHMWPE by addn. of liq.-cryst. polymer and fluoroelastomer)
- L25 ANSWER 10 OF 19 ZCAPLUS COPYRIGHT 2002 ACS  
1999:464139 Document No. 131:90262 Polymer **electrolytes** and **nonaqueous batteries** using the **electrolytes**. Katsurao, Takumi; Horie, Katsuo; Ichikawa, Yukio; Nagai, Aisaku (Kureha Kagaku Kogyo Kabushiki Kaisha, Japan). PCT Int. Appl. WO 9934372 A1 19990708, 30 pp. DESIGNATED STATES: W: CA, JP, KR, US; RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Japanese). CODEN: PIXXD2. APPLICATION: WO 1998-JP5848 19981224. PRIORITY: JP 1997-366969 19971226.
- AB The **electrolytes** contain a **nonaq. electrolyte** soln. and a vinylidene fluoride copolymer, which contains 80-97% vinylidene fluoride and having **intrinsic viscosity** 1.5-10 dL/g. The **batteries** are secondary Li **batteries**.
- IT 25101-47-7, Chlorotrifluoroethylene-hexafluoropropylene-vinylidene fluoride copolymer  
(vinylidene fluoride copolymers for polymer **electrolytes** for secondary lithium **batteries**)
- RN 25101-47-7 ZCAPLUS
- CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with chlorotrifluoroethene and 1,1-difluoroethene (9CI) (CA INDEX NAME)

CM 1

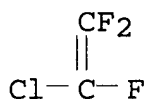
CRN 116-15-4

CMF C3 F6



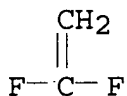
CM 2

CRN 79-38-9  
CMF C2 Cl F3



CM 3

CRN 75-38-7  
CMF C2 H2 F2



IC ICM H01B001-12  
ICS H01M010-40; C08L027-16  
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
ST secondary lithium **battery electrolyte** vinylidene fluoride copolymer  
IT **Battery electrolytes**  
(vinylidene fluoride copolymers for polymer **electrolytes** for secondary lithium **batteries**)  
IT 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate 109-99-9, Thf, uses 9010-75-7, Chlorotrifluoroethylene-vinylidene fluoride copolymer 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer 21324-40-3, Lithium hexafluorophosphate 25101-47-7, Chlorotrifluoroethylene-hexafluoropropylene-vinylidene fluoride copolymer  
(vinylidene fluoride copolymers for polymer **electrolytes** for secondary lithium **batteries**)

L25 ANSWER 11 OF 19 ZCAPLUS COPYRIGHT 2002 ACS  
1998:287479 Document No. 129:41549 Manufacture of fluorine-containing graft polymers having improved heat-resistance and moldability useful for weather-resistant coatings. Inukai, Hiroshi; Marumoto,

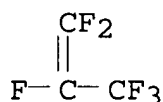
Etsuzo (Toa Gosei Chemical Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 10120738 A2 19980512 Heisei, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-294617 19961017.

- AB Title polymers are manufd. by radical polymn. of fluoroolefin unit-contg. macromers and fluoroolefin-contg. monomers. Thus, chlorotrifluoroethylene and vinylidene fluoride (I) were polymd. in the presence of MeOH (chain transfer agent), and reacted with acryloyl chloride to give a macromer, which was polymd. with I to give a graft polymer having Mn 78,000 and **Mw** 161,000. Then, the polymer was press-molded to a colorless sheet having tensile strength 280 kg/cm<sup>2</sup>, elongation 660%, and Shore D hardness 42.
- IT **208183-12-4P**, Chlorotrifluoroethylene-hexafluoropropylene-vinylidene fluoride graft copolymer  
(rubber; prepn. of heat-resistant fluorine-contg. graft polymers useful for weather-resistant coatings)
- RN 208183-12-4 ZCAPLUS
- CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with chlorotrifluoroethene and 1,1-difluoroethene, graft (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

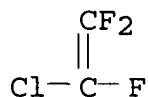
CMF C3 F6



CM 2

CRN 79-38-9

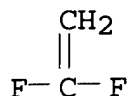
CMF C2 Cl F3



CM 3

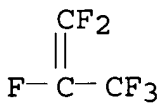
CRN 75-38-7

CMF C2 H2 F2



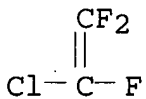
- IC ICM C08F290-04  
ICS C08F214-18; C08F259-08
- CC 35-8 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 39, 42
- IT 123236-28-2P 208183-12-4P, Chlorotrifluoroethylene-hexafluoropropylene-vinylidene fluoride graft copolymer  
208183-13-5P, Propylene-tetrafluoroethylene-vinylidene fluoride graft copolymer  
(rubber; prepn. of heat-resistant fluorine-contg. graft polymers useful for weather-resistant coatings)
- L25 ANSWER 12 OF 19 ZCAPLUS COPYRIGHT 2002 ACS  
1997:299238 Document No. 126:278756 Cold-resistant acrylic copolymer elastomers, their blends and vulcanizable compositions. Saito, Kuniyoshi; Moriyama, Iwao; Okabe, Jun (Nippon Mektron, Ltd., Japan).  
Eur. Pat. Appl. EP 761702 A2 19970312, 19 pp. DESIGNATED STATES: R: DE, FR. (English). CODEN: EPXXDW. APPLICATION: EP 1996-113197 19960816. PRIORITY: JP 1995-246784 19950831.
- AB The elastomer comprises (1) a C1-8-alkyl acrylate, (2) (a) CH<sub>2</sub>:CRCO<sub>2</sub>R<sub>2</sub>O<sub>2</sub>CR<sub>1</sub>, (b) CH<sub>2</sub>:CRCO[O(CH<sub>2</sub>)<sub>p</sub>CO]qOR<sub>1</sub>, or (c) CH<sub>2</sub>:CRCO<sub>2</sub>R<sub>2</sub>O[CO(CH<sub>2</sub>)<sub>p</sub>O]qCOR<sub>1</sub>, and (3) an unsatd. ester with a hydroxyphenyl, acetoxypheyl, or trialkylsiloxy terminal group, where R is H or Me, R<sub>1</sub> is C1-4 alkyl, R<sub>2</sub> is C2-20 alkylene, p = 2-10, and q = 1-20, and provides a rubber blend having improved cold resistance and an intermediate heat resistance between those of the blend components when blended with a fluoro elastomer. Thus, Et acrylate 250, Bu acrylate 150, 4-acetoxylbutyl acrylate 100, and 4-hydroxybenzyl acrylate 25 g were emulsion-copolymerized by use of a redox catalyst to give an acrylic rubber (Mooney **viscosity** at 100.degree. 42), which was blended 1:1 with 60:21:19 vinylidene fluoride-tetrafluoroethylene-hexafluoropropylene copolymer rubber (Mooney **viscosity** 74) and vulcanized with 30 phr carbon black to give a sample with tensile strength 5.4 MPa, 100% modulus 1.9 MPa, and embrittlement temp. -23.degree..
- IT 25101-47-7P, Chlorotrifluoroethylene-hexafluoropropylene-vinylidene fluoride copolymer  
(rubber; cold-resistant acrylic copolymer elastomers and their blends with fluoro rubbers)
- RN 25101-47-7 ZCAPLUS
- CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with chlorotrifluoroethene and 1,1-difluoroethene (9CI) (CA INDEX NAME)
- CM 1
- CRN 116-15-4  
CMF C3 F6





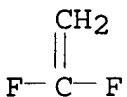
CM 2

CRN 79-38-9  
CMF C2 Cl F3



CM 3

CRN 75-38-7  
CMF C2 H2 F2



IC ICM C08F220-12  
ICS C08F220-28; C08F220-30; C08L033-06; C08L033-14; C08L027-12  
CC 39-4 (Synthetic Elastomers and Natural Rubber)  
IT 9011-17-0P, Hexafluoropropylene-vinylidene fluoride copolymer  
25101-47-7P, Chlorotrifluoroethylene-hexafluoropropylene-  
vinylidene fluoride copolymer 25190-89-0P, Hexafluoropropylene-  
tetrafluoroethylene-vinylidene fluoride copolymer 188845-92-3P,  
4-Acetoxybutyl acrylate-butyl acrylate-ethyl acrylate-4-  
hydroxybenzyl acrylate copolymer 188845-93-4P, 4-Acetoxybutyl  
acrylate-butyl acrylate-4-hydroxybenzyl acrylate-2-methoxyethyl  
acrylate copolymer 188845-94-5P, 4-Acetoxybutyl acrylate-butyl  
acrylate-ethyl acrylate-4-hydroxybenzyl acrylate-styrene copolymer  
188845-95-6P, 4-Acetoxybenzyl acrylate-4-acetoxybutyl acrylate-butyl  
acrylate-ethyl acrylate copolymer 188845-96-7P, 4-Acetoxybutyl  
acrylate-4-(acryloyloxy)butyl 4-hydroxybenzoate-butyl acrylate-ethyl  
acrylate copolymer 188845-97-8P, 4-Acetoxybutyl acrylate-butyl  
acrylate-ethyl acrylate-vinyl 4-hydroxybenzoate copolymer  
188845-98-9P, 4-Acetoxybutyl acrylate-butyl acrylate-ethyl  
acrylate-vinyl (4-hydroxybenzoyloxy)acetate copolymer  
188846-00-6P, 4-Acetoxybutyl acrylate-butyl acrylate-ethyl  
acrylate-2-(4-hydroxybenzoyloxy)ethyl vinyl ether copolymer

188846-01-7P, 4-Acetoxybutyl acrylate-butyl acrylate-ethyl acrylate-4-vinylbenzyl 4-hydroxybenzoate copolymer 188846-02-8P, Aronix M 5300 Et ester-butyl acrylate-ethyl acrylate-4-hydroxybenzyl acrylate copolymer 188934-43-2P 188934-44-3P (rubber; cold-resistant acrylic copolymer elastomers and their blends with fluoro rubbers)

L25 ANSWER 13 OF 19 ZCAPLUS COPYRIGHT 2002 ACS

1997:192050 Document No. 126:187239 Acrylic copolymer elastomer, its blends with fluoro rubber, and vulcanizable compositions. Saito, Kuniyoshi; Moriyama, Iwao; Okabe, Jun (Nippon Mektron, Ltd., Japan). Eur. Pat. Appl. EP 755952 A2 19970129, 21 pp. DESIGNATED STATES: R: DE, FR. (English). CODEN: EPXXDW. APPLICATION: EP 1996-111939 19960724. PRIORITY: JP 1995-209179 19950725; JP 1995-227018 19950811; JP 1996-29841 19960124; JP 1996-93486 19960322; JP 1996-144917 19960515.

AB The title acrylic copolymers comprise a C1-8 alkyl acrylate and an unsatd. ester compd. selected from the following:  
CH<sub>2</sub>:CRCOO(CH<sub>2</sub>)<sub>n</sub>C<sub>6</sub>H<sub>4</sub>OR' or CH<sub>2</sub>:CRCOO(CH<sub>2</sub>)<sub>n</sub>OCO(CH<sub>2</sub>)<sub>m</sub>C<sub>6</sub>H<sub>4</sub>OR',  
CH<sub>2</sub>:CHO(CH<sub>2</sub>)<sub>n</sub>OCO(CH<sub>2</sub>)<sub>m</sub>C<sub>6</sub>H<sub>4</sub>OR', or CH<sub>2</sub>:CHPh(CH<sub>2</sub>)<sub>n</sub>OCO(CH<sub>2</sub>)<sub>m</sub>C<sub>6</sub>H<sub>4</sub>OR' (R = H, Me; R' = H, an acyl group, or a trialkylsilyl group). The acrylic copolymer elastomers form blends with fluoro rubber, and the blends have good heat resistance and good amine resistance. Addnl., vulcanizable blend compns. contain quaternary onium salts and acid acceptors. Thus, an Et acrylate-Bu acrylate-4-hydroxybenzyl acrylate rubber was prepd. which exhibited Mooney **viscosity** 42 pts, and copolymn. ratio of components 2.7. The prepd. rubber was blended a fluoro rubber to give blends for which no crack occurrence was obsd. at all in deterioration testing with engine oil.

IT 25101-47-7P, Chlorotrifluoroethylene-hexafluoropropylene-vinylidene fluoride copolymer  
(rubber; manuf. of acrylic copolymer rubbers and fluoro rubber blends with good amine and heat resistances)

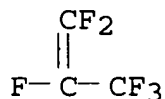
RN 25101-47-7 ZCAPLUS

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with chlorotrifluoroethene and 1,1-difluoroethene (9CI) (CA INDEX NAME)

CM 1

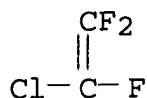
CRN 116-15-4

CMF C3 F6



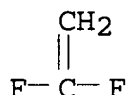
CM 2

CRN 79-38-9  
CMF C2 Cl F3



CM 3

CRN 75-38-7  
CMF C2 H2 F2



IC ICM C08F220-12  
ICS C08F220-30; C08F218-10; C08F216-14; C08L033-06; C08L015-02  
CC 39-9 (Synthetic Elastomers and Natural Rubber)  
IT 9011-17-0P, Hexafluoropropylene-vinylidene fluoride copolymer  
25101-47-7P, Chlorotrifluoroethylene-hexafluoropropylene-  
vinylidene fluoride copolymer 25190-89-0P, Hexafluoropropylene-  
tetrafluoroethylene-vinylidene fluoride copolymer 187545-26-2P  
187545-28-4P 187545-29-5P 187545-30-8P 187545-31-9P  
187545-32-0P 187545-33-1P 187545-34-2P 187545-35-3P  
187545-36-4P  
(rubber; manuf. of acrylic copolymer rubbers and fluoro rubber  
blends with good amine and heat resistances)

L25 ANSWER 14 OF 19 ZCAPLUS COPYRIGHT 2002 ACS  
1996:594170 Document No. 125:250112 Processing and characterization of  
blends of fluoroelastomers with semirigid liquid crystal polymers.  
La Mantia, F. P.; Scaffaro, R.; Pedretti, U.; Roggero, A.  
(Dipartimento Ingegneria chimica, Universita Palermo, palermo,  
90128, Italy). Journal of Applied Polymer Science, 62(4), 673-686  
(English) 1996. CODEN: JAPNAB. ISSN: 0021-8995. Publisher: Wiley.  
AB Fluoroelastomers (FEs) usually have working temps. above 150.degree.  
and a great resistance to aggressive agents such as oils, fuels,  
aliph. and arom. solvents, steam, moderate acid, and basic  
environments. Liq. crystal polymers (LCPs) can be effective  
processing aids and reinforcing agents for elastomers. These  
characteristics are very attractive to lower melt **viscosity**  
and to stiffen and strengthen the final product through a simple  
blending. Among the LCPs, the semirigid LCPs seem the most  
appealing for blending with flexible thermoplastics (FTs) because  
their processing temps. can be arranged to be in the same processing  
temp. range of FTs and because the presence of flexible segments can

improve the compatibility with the flexible matrix. This is very important esp. for FEs that are subjected not only to mech. degrdn., but also to thermal degrdn. Blends of FEs, e.g., Viton B70 and Tecnoflon TN80, with two types of semirigid LCPs, e.g., 4,4'-dihydroxybiphenyl-4-hydroxybenzoic acid-4-hydroxynaphthoic acid-sebacic acid copolymer and 4,4'-dihydroxybiphenyl-4-hydroxybenzoic acid-sebacic acid copolymer, show easy processability and enhanced mech. and thermomech. properties. These improvements were obsd. both for pure FEs and for filled vulcanized systems. The improvement of the mech. properties is below that expected on the basis of the additive rule due to the incompatibility between the components; nevertheless, an impressive increase of the elastic modulus, up to 40 times, was noticed by adding 20% of LCP. In vulcanized systems, the tensile strength is also increased, whereas the elongation at break is slightly reduced. The working temp. is also drastically increased both in vulcanized and in unvulcanized systems.

IT 95325-75-0, Chlorotrifluoroethylene-hexafluoropropene-tetrafluoroethylene-vinylidene fluoride copolymer  
(rubber, blends with liq. cryst. dihydroxybiphenyl-arom. hydroxycarboxylic acid-sebacic acid polymers; processing and characterization of blends of fluoroelastomers with semirigid liq. crystal polymers)

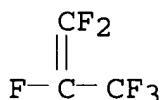
RN 95325-75-0 ZCAPLUS

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with chlorotrifluoroethene, 1,1-difluoroethene and tetrafluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

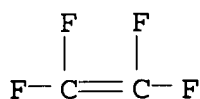
CMF C3 F6



CM 2

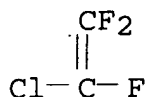
CRN 116-14-3

CMF C2 F4



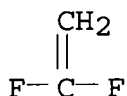
CM 3

CRN 79-38-9  
CMF C2 Cl F3



CM 4

CRN 75-38-7  
CMF C2 H2 F2



- CC 39-9 (Synthetic Elastomers and Natural Rubber)
- ST fluoroelastomer blend liq cryst polyester; mech property fluoroelastomer blend; vulcanization fluoroelastomer blend; rheol property fluoroelastomer blend
- IT 9060-14-4, Pentafluoropropylene-tetrafluoroethylene-vinylidene fluoride copolymer 95325-75-0, Chlorotrifluoroethylene-hexafluoropropene-tetrafluoroethylene-vinylidene fluoride copolymer (rubber, blends with liq. cryst. dihydroxybiphenyl-arom. hydroxycarboxylic acid-sebacic acid polymers; processing and characterization of blends of fluoroelastomers with semirigid liq. crystal polymers)
- L25 ANSWER 15 OF 19 ZCAPLUS COPYRIGHT 2002 ACS  
1987:72974 Document No. 106:72974 A soft denture-base liner preparation from methacrylate monomer and fluorine-containing copolymer. Masuhara, Hidekazu; Hayakawa, Iwao; Sakauchi, Nobuo (Kureha Chemical Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 61243008 A2 19861029 Showa, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1985-83698 19850419.
- AB A soft denture-base liner comprises CH<sub>2</sub>:CR<sub>1</sub>CO<sub>2</sub>R<sub>2</sub> (R<sub>1</sub> = H, Me; R<sub>2</sub> = F-contg. oligomer with mol. wt. <1500) 100, a F-contg. copolymer 1-30, and a photosensitizer 0.01-2.0 parts by wt. Thus, (1) 100 g CH<sub>2</sub>:CMeCO<sub>2</sub>R<sub>2</sub>, where R<sub>2</sub> is an oligomer consisting of CH<sub>2</sub>:CHF 50, CF<sub>2</sub>:CFCl 30, and CF<sub>2</sub>:CF<sub>2</sub> 20 parts by wt., (2) 15 g of a soft F-contg. copolymer (CH<sub>2</sub>:CHF, CF<sub>2</sub>:CFCl, and CF<sub>2</sub>:CF<sub>2</sub> = 50/30/20, by wt.), and (3) 0.2 g camphorquinone were mixed at 140.degree. for 10 min to obtain a denture-base liner. A procedure is described for the attachment of the liner to the denture base.
- IT 25101-47-7, Chlorotrifluoroethylene-hexafluoropropylene-

vinylidene fluoride copolymer  
 (denture-base liner compn. contg. acrylate-terminated  
 fluorooligomers and)

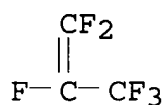
RN 25101-47-7 ZCAPLUS

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with  
 chlorotrifluoroethene and 1,1-difluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

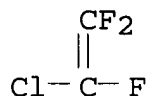
CMF C3 F6



CM 2

CRN 79-38-9

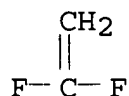
CMF C2 Cl F3



CM 3

CRN 75-38-7

CMF C2 H2 F2



IC ICM A61K006-08

CC 63-7 (Pharmaceuticals)

IT 25101-47-7, Chlorotrifluoroethylene-hexafluoropropylene-  
 vinylidene fluoride copolymer 30421-59-1, Chlorotrifluoroethylene-  
 tetrafluoroethylene-vinylidene fluoride copolymer  
 (denture-base liner compn. contg. acrylate-terminated  
 fluorooligomers and)

L25 ANSWER 16 OF 19 ZCAPLUS COPYRIGHT 2002 ACS

1985:583605 Document No. 103:183605 Fluorine-containing acrylate

polymers for dentures. (Kureha Chemical Industry Co., Ltd., Japan; Masuhara, Eiichi; Hayakawa, Iwao). Jpn. Kokai Tokkyo Koho JP 60112707 A2 19850619 Showa, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1983-221069 19831124.

AB The reverse side of dentures is coated with a copolymer of CH<sub>2</sub>:CRCO<sub>2</sub>R<sub>1</sub> (R = H, Me; R<sub>1</sub> = F-contg. oligomers with mol. wt. <1500) and alkyl acrylate or alkyl methacrylate to reduce the biting pressure. As an example, a compn. for coating consists of soln. A contg. CH<sub>2</sub>:CMeCO<sub>2</sub>R<sub>1</sub> (where R<sub>1</sub> = oligomer of chlorotrifluoroethylene, fluorovinylidene and tetrafluoroethylene) and dimethyl-p-toluidine, and soln. B contg. Me methacrylate and benzoyl peroxide.

IT 98912-03-9

(polymn. of, with acrylates, dentures coating by)

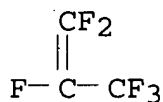
RN 98912-03-9 ZCAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with chlorotrifluoroethene, 1,1-difluoroethene and 1,1,2,3,3,3-hexafluoro-1-propene (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

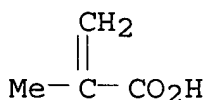
CMF C3 F6



CM 2

CRN 79-41-4

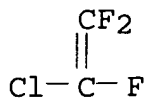
CMF C4 H6 O2



CM 3

CRN 79-38-9

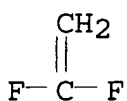
CMF C2 Cl F3



CM 4

CRN 75-38-7

CMF C2 H2 F2



IT 98912-00-6P

(prepn. of, as denture coating, biting pressure redn. in relation to)

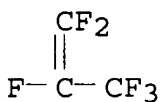
RN 98912-00-6 ZCAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with chlorotrifluoroethene,  
1,1-difluoroethene, ethyl 2-methyl-2-propenoate and  
1,1,2,3,3,3-hexafluoro-1-propene (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

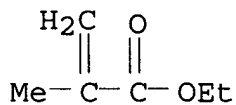
CMF C3 F6



CM 2

CRN 97-63-2

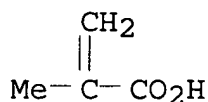
CMF C6 H10 O2



CM 3

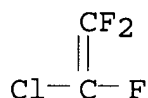


CRN 79-41-4  
CMF C4 H6 O2



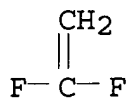
CM 4

CRN 79-38-9  
CMF C2 Cl F3



CM 5

CRN 75-38-7  
CMF C2 H2 F2



IC ICM A61K006-08  
ICS A61C013-16  
CC 63-7 (Pharmaceuticals)  
Section cross-reference(s): 37  
IT 98912-02-8 98912-03-9 98912-04-0  
(polymn. of, with acrylates, dentures coating by)  
IT 98911-99-0P 98912-00-6P 98912-01-7P  
(prepn. of, as denture coating, biting pressure redn. in relation to)

L25 ANSWER 17 OF 19 ZCAPLUS COPYRIGHT 2002 ACS  
1985:26116 Document No. 102:26116 Polymerizable fluorine-containing compounds. (Kureha Chemical Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 59117504 A2 19840706 Showa, 3 pp. (Japanese).  
CODEN: JKXXAF. APPLICATION: JP 1982-233696 19821224.  
AB Title compds. (mol. wt. .ltoreq.1500, having double bonds) are prepd. by hydrolysis of F-contg. telomers contg. vinyl acetate (I), followed by esterification with (meth)acryloyl chloride. Thus, 100 g telomer of vinylidene fluoride 43.5,

chlorotrifluoroethylene 26.0, hexafluoropropylene 17.4, and I 13.1 parts with MeOH (mol. wt. 996) was dissolved in EtOH and treated with 20 g NaOH at 60.degree. to obtain an oily substance (92 g), which was then dissolved in CCl4 and treated with 20 g acryloyl chloride in the presence of Et3N to obtain 95 g of a viscous F-contg. product. The product (30 g) was polymd. in the presence of 0.6 g org. peroxides and 0.3 g dimethylaniline to obtain an elastomeric fluoropolymer.

IT 93974-59-5DP, hydrolyzed, esters with acryloyl chloride  
(prepn. and polymn. of)

RN 93974-59-5 ZCAPLUS

CN Acetic acid ethenyl ester, telomer with chlorotrifluoroethene, 1,1-difluoroethene, 1,1,2,3,3,3-hexafluoro-1-propene and methanol (9CI) (CA INDEX NAME)

CM 1

CRN 67-56-1

CMF C H4 O

H<sub>3</sub>C-OH

CM 2

CRN 93974-58-4

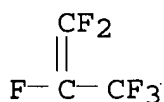
CMF (C4 H6 O2 . C3 F6 . C2 H2 F2 . C2 Cl F3)x

CCI PMS

CM 3

CRN 116-15-4

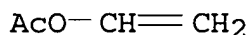
CMF C3 F6



CM 4

CRN 108-05-4

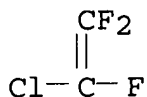
CMF C4 H6 O2



CM 5

CRN 79-38-9

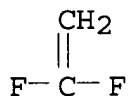
CMF C2 Cl F3



CM 6

CRN 75-38-7

CMF C2 H2 F2



IC C08F008-14; C08F214-22

ICA A61C013-16; A61K006-08; C08F299-00

ICI C08F214-22, C08F218-08

CC 39-2 (Synthetic Elastomers and Natural Rubber)

Section cross-reference(s): 35

IT 814-68-6DP, esters with hydrolyzed fluorine-contg. vinyl acetate telomers 920-46-7DP, esters with hydrolyzed fluorine-contg. vinyl acetate telomers 93974-59-5DP, hydrolyzed, esters with acryloyl chloride 93974-61-9DP, hydrolyzed, esters with methacryloyl chloride (prepn. and polymn. of)

L25 ANSWER 18 OF 19 ZCAPLUS COPYRIGHT 2002 ACS

1979:458087 Document No. 91:58087 Modified

poly(chlorotrifluoroethylene). Tatemoto, Masayoshi; Nakagawa, Tsuneo (Daikin Kogyo Co., Ltd., Japan). U.S. US 4155953 19790522, 5 pp. (English). CODEN: USXXAM. APPLICATION: US 1976-737056 19761029.

AB C2F3Cl is radically polyimd. or copolyimd. at -30 to +45.degree. in a medium contg. water and R-113 in the presence of a fluoroelastomer with no.-av. mol. wt. 10,000-500,000 to give a modified polymer with low crystallinity and good processability. Thus, 1.1 parts bis(trichloroperfluorohexanoyl) peroxide (I) was added to a mixt. of C2F4 500, propylene 30, and R-113 1870 parts at 24.degree. and 3.8 kg/cm2 gage and polymn. was continued 155 min with addn. of propylene to maintain the pressure. This gave 65 parts 45:55 propylene-tetrafluoroethylene copolymer rubber with intrinsic viscosity 1.66 (MeCOEt, 35.degree.). A

4% soln. of the rubber (185 parts) and 600 parts C<sub>2</sub>F<sub>3</sub>Cl were added to 1000 parts water and polymd. 20 h at 20.degree. with 0.2 part I to give, after acetone extn. to remove unreacted fluoroelastomer, 27 parts modified poly(chlorotrifluoroethylene) (II) contg. 6.6% rubber. In a Koka flow tester the modified II at 230.degree. was extruded through a 1-mm diam. nozzle 1 mm long under a pressure of 100 kg/cm<sup>2</sup> at a flow rate of 1.5 .times. 10<sup>-2</sup> cm<sup>3</sup>/s and gave a transparent molded sheet with crystallinity 51.0%, compared with 60.4% for unmodified II.

IT 25101-47-7P

(graft, manuf. of, with good processability)

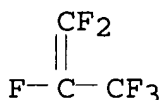
RN 25101-47-7 ZCAPLUS

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with chlorotrifluoroethene and 1,1-difluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

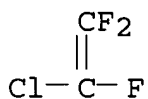
CMF C3 F6



CM 2

CRN 79-38-9

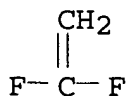
CMF C2 Cl F3



CM 3

CRN 75-38-7

CMF C2 H2 F2



IC C08L023-00

NCL 260878000R

CC 36-3 (Plastics Manufacture and Processing)  
 IT 25101-47-7P 70864-43-6P  
 (graft, manuf. of, with good processability)

L25 ANSWER 19 OF 19 ZCAPLUS COPYRIGHT 2002 ACS  
 1969:414738 Document No. 71:14738 Encapsulated propellant preparation  
 from fluorinated monomers by using radiation. Woods, Warren W.;  
 Shock, D'Arcy A. (Continental Oil Co.). U.S. US 3441455 19690429, 7  
 pp. (English). CODEN: USXXAM. APPLICATION: US 19610113.

AB Solid propellants are encapsulated by exposing a mixt. of the  
 propellant component and at least 1 radiation-polymerizable,  
 nonsolid component to .gamma.-radiation. Thus, a bed of 100-.mu.  
 LiAlH<sub>4</sub> particles were fluidized with C<sub>2</sub>H<sub>4</sub> gas at superficial  
 velocity 6.3 ft./min., 15 psia., and 70.degree.F. The bed was  
 irradiated with 105 rep./hr. for .apprx.100 hrs., causing a coating  
 of polymer to form around the fuel particles. In another example, a  
 cast propellant contg. powd. Al 16, NH<sub>4</sub>ClO<sub>4</sub> 64, and equimolar mixt.  
 of CH<sub>2</sub>:CF<sub>2</sub>, CH<sub>2</sub>:CHF, and F<sub>2</sub>C:CFCl 18, and low-mol.-  
 wt. polystyrene 2 wt. % was prepd. by stirring the monomers  
 and the polystyrene in a pressure vessel until dispersion occurred  
 and the **viscosity** reached 1000 cp., adding the fuel and  
 oxidizer, and forcing the mixt. into a casing, where it was  
 irradiated for 12 hrs. at 105 rep./hr., 70.degree.F., and 500 lb.  
 pressure. The mass solidified in the propellant case. A no. of  
 polymers were also formed by irradiating the monomers used above in  
 pressure vessels. Other monomers polymd. were vinyl chloride,  
 propylene, hexafluoropropylene, vinyl propionate, vinyl butyrate,  
 and F<sub>2</sub>C:CF<sub>2</sub>. This method reduces the time required for the  
 encapsulated propellant prepn., is carried out at lower temps. than  
 prior processes, and give uniform, crack-free grains.

IT 25101-47-7P

(prepn. of, by gamma radiation)

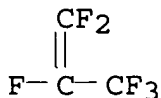
RN 25101-47-7 ZCAPLUS

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with  
 chlorotrifluoroethene and 1,1-difluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

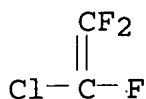
CMF C3 F6



CM 2

CRN 79-38-9

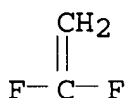
CMF C2 Cl F3



CM 3

CRN 75-38-7

CMF C2 H2 F2



IC C06B

NCL 149008000

CC 50 (Propellants and Explosives)

IT 24937-99-3P, preparation 25101-35-3P, preparation 25101-36-4P,  
 preparation 25101-38-6P 25101-39-7P, preparation 25101-40-0P  
 25101-41-1P, preparation 25101-42-2P, preparation 25101-43-3P  
 25101-44-4P 25101-45-5P, preparation 25101-46-6P  
 25101-47-7P 25135-65-3P, preparation  
 (prepn. of, by gamma radiation)

=&gt; d 126 1-22 cbib abs hitstr hitrn

L26 ANSWER 1 OF 22 ZCAPLUS COPYRIGHT 2002 ACS

2002:573377 Document No. 137:126552 Chlorofluoro elastomer  
 compositions for use in electrophotographic fusing applications.  
 Gervasi, David J.; Riehle, George A.; Heeks, George J.; Henry,  
 Arnold W.; Badesha, Santokh S. (Xerox Corporation, USA). Eur. Pat.  
 Appl. EP 1227128 A1 20020731, 8 pp. DESIGNATED STATES: R: AT, BE,  
 CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT,  
 LV, FI, RO, MK, CY, AL, TR. (English). CODEN: EPXXDW.  
 APPLICATION: EP 2002-2199 20020129. PRIORITY: US 2001-772576  
 20010130.

AB Elastomer compns. comprising a blend of a fluoroelastomer comprising  
 a terpolymer of vinylidene fluoride, tetrafluoroethylene and  
 hexafluoropropylene and a chlorofluoroelastomer comprising a co- or  
 terpolymer of vinylidene fluoride, chlorotrifluoroethylene and 0-40  
 mol% hexafluoropropylene. The compn. may be cured and is  
 particularly suitable for use as a surface release layer for fusing  
 systems used in electrostatog. imaging systems.

IT 25101-47-7, Chlorotrifluoroethylene hexafluoropropylene  
 vinylidene fluoride copolymer  
 (rubber; chlorofluoro elastomer compns. for wear-resistant

release layer use in electrophotog. fusing applications)

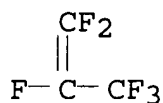
RN 25101-47-7 ZCAPLUS

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with  
chlorotrifluoroethene and 1,1-difluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

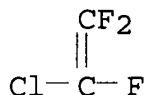
CMF C3 F6



CM 2

CRN 79-38-9

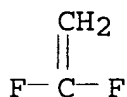
CMF C2 Cl F3



CM 3

CRN 75-38-7

CMF C2 H2 F2



IT 25101-47-7, Chlorotrifluoroethylene hexafluoropropylene  
vinylidene fluoride copolymer  
(rubber; chlorofluoro elastomer compns. for weaar-resistant  
release layer use in electrophotog. fusing applications)

L26 ANSWER 2 OF 22 ZCAPLUS COPYRIGHT 2002 ACS

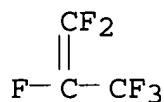
2002:442945 Document No. 136:402213 Method for preparing telechelic  
fluorinated polymers, and the polymers thus prepared. Vignane,  
Pascal; Lebret, Bruno; Ameduri, Bruno; Manseri, Abdelatif; Saint,  
Loup Rene (Commissariat A L'energie Atomique, Fr.). Fr. Demande FR  
2810668 A1 20011228, 67 pp. (French). CODEN: FRXXBL. APPLICATION:  
FR 2000-8082 20000623.

- AB Fluoropolymers having CO<sub>2</sub>H on both ends or OH on 1 end and CO<sub>2</sub>H on the other and glass temp. from -80 to -40.degree. are manufd. by radical polymn. of R<sub>1</sub>R<sub>2</sub>C:CR<sub>3</sub>R<sub>4</sub> [R<sub>1</sub>-4 = H, halo, C1-6 alkyl, C1-6 alkoxy, C1-6 haloalkyl (esp., perfluoroalkyl), C1-6 haloalkoxy (esp., perfluoroalkoxy), C1-7 haloacyl, (esp., perfluoroacyl), such that .gtoreq.1 of R<sub>1</sub>-4 contains .gtoreq.F] (I) and, optionally, another unsatd. F-contg. unsatd. compd. different than I in the presence of H<sub>2</sub>O<sub>2</sub>. The CO<sub>2</sub>H groups of these polymers are reducible to OH groups to give polymers, which are useful in the manuf. of polymers such as polyurethanes, polyesters, polyimides, and polyamides.
- IT 25101-47-7DP, Chlorotrifluoroethylene-hexafluoropropene-vinylidene fluoride copolymer, hydroxy- and carboxy-terminated (prepg. telechelic hydroxy- and carboxy-terminated fluorinated polymers by polymn. in presence of hydrogen peroxide)
- RN 25101-47-7 ZCAPLUS
- CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with chlorotrifluoroethene and 1,1-difluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

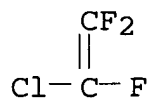
CMF C3 F6



CM 2

CRN 79-38-9

CMF C2 Cl F3

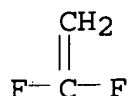


CM 3

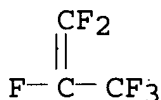
CRN 75-38-7

CMF C2 H2 F2





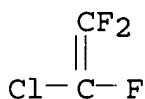
- IT 25101-47-7DP, Chlorotrifluoroethylene-hexafluoropropene-vinylidene fluoride copolymer, hydroxy- and carboxy-terminated (prepg. telechelic hydroxy- and carboxy-terminated fluorinated polymers by polymn. in presence of hydrogen peroxide)
- L26 ANSWER 3 OF 22 ZCAPLUS COPYRIGHT 2002 ACS  
2002:107407 Document No. 136:135182 Vinylidene fluoride polymers, process for manufacturing them and use thereof. Lannuzel, Thierry; Meunier, Vincent; Faig, Regis; Vidberg, Olivier (Solvay (Societe Anonyme), Belg.). PCT Int. Appl. WO 2002010233 A1 20020207, 21 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-EP8645 20010726. PRIORITY: FR 2000-10169 20000731.
- AB Disclosed are vinylidene fluoride polymers, characterized in that they are thermoplastic vinylidene fluoride/chlorotrifluoroethylene/hexafluoropropylene terpolymers and in that they contain at least 70 %vinylidene fluoride, process for obtaining them, and use thereof. Thus, demineralize water 1950 Me hydroxypropyl cellulose/100 g monomer 0.1, tert-amyl perpivalate 7.24, di-Et carbonate 6.97, chlorotrifluoroethylene 35, hexafluoropropylene 174, and vinylidene fluoride 1184 g were heated at 55.degree. and 120 bar for 5 h to give a terpolymer having MFI2.26 (21.6 kg), ADAT 0.5 f/cm<sup>3</sup>, VF2 content 95 mol%, CTFE content 1.6 mol%, HFP content 3.4 mol%, Tm 141.3.degree., ICC 0.42.
- IT 25101-47-7P, Chlorotrifluoroethylene-hexafluoropropylene-vinylidene fluoride copolymer (vinylidene fluoride polymers, process for manufg. them and use thereof)
- RN 25101-47-7 ZCAPLUS
- CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with chlorotrifluoroethene and 1,1-difluoroethene (9CI) (CA INDEX NAME)
- CM 1
- CRN 116-15-4
- CMF C3 F6



CM 2

CRN 79-38-9

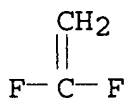
CMF C2 Cl F3



CM 3

CRN 75-38-7

CMF C2 H2 F2



IT 25101-47-7P, Chlorotrifluoroethylene-hexafluoropropylene-vinylidene fluoride copolymer  
(vinylidene fluoride polymers, process for manufg. them and use thereof)

L26 ANSWER 4 OF 22 ZCAPLUS COPYRIGHT 2002 ACS

2001:217957 Document No. 134:253809 Room temperature-curable water-thinned halogen-substituted resin coating compositions. Udagawa, Reiko (Japan). Jpn. Kokai Tokkyo Koho JP 2001081391 A2 20010327, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-298697 19990913.

AB The coating compns. contain halogen-substituted polymers,  $\text{HS}(\text{CF}_2)_n\text{SH}$  ( $n = 2-20$ ) or  $\text{HSC}_6\text{H}_4\text{CR}_2\text{C}_6\text{H}_4\text{SH}$  ( $R = \text{CF}_2, \text{C}_2\text{F}_5, \text{C}_3\text{F}_7$ ) as crosslinking agents, and aliph. primary diamines as crosslinking catalyst. The halogen-contg. polymers may be copolymers of vinylidene fluoride (I), cyclohexyl vinyl ether (II), and chlorotrifluoroethylene (III), bromotrifluoroethylene, or iodotrifluoroethylene. The coatings are suitable for building exterior or interior goods, which show heat and weather resistance similar to PTFE. Thus, an aq. dispersion contg. 100 parts emulsion-polymerized 74:14:12 (mol) I-III-II copolymer, 10 parts 2,2-bis(4-mercaptophenyl)hexafluoropropane, 5 parts ethylenediamine, and pigments, etc., was applied on Al substrates to

give test pieces showing 69% retention of initial gloss after 3000-h exposure to sunshine weatherometer and no blisters or cracks after 168 h in oven at 250.degree..

IT 331448-60-3P, 2,2-Bis(4-mercaptophenyl)hexafluoropropane-chlorotrifluoroethylene-hexafluoropropylene-vinylidene fluoride copolymer  
(room temp.-curable aq. coating contg. halogen-substituted polymers, dithiol hardeners, and diamine crosslinking catalysts with heat and weather resistance)

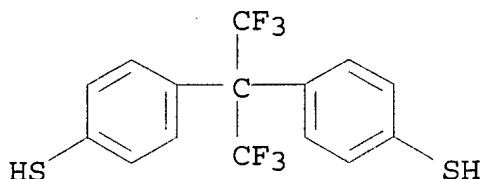
RN 331448-60-3 ZCAPLUS

CN Benzenethiol, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, polymer with chlorotrifluoroethene, 1,1-difluoroethene and 1,1,2,3,3,3-hexafluoro-1-propene (9CI) (CA INDEX NAME)

CM 1

CRN 93129-79-4

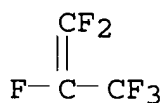
CMF C15 H10 F6 S2



CM 2

CRN 116-15-4

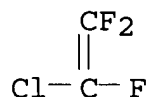
CMF C3 F6



CM 3

CRN 79-38-9

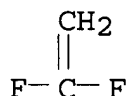
CMF C2 Cl F3



CM 4

CRN 75-38-7

CMF C2 H2 F2



IT 331448-60-3P, 2,2-Bis(4-mercaptophenyl)hexafluoropropane-chlorotrifluoroethylene-hexafluoropropylene-vinylidene fluoride copolymer  
(room temp.-curable aq. coating contg. halogen-substituted polymers, dithiol hardeners, and diamine crosslinking catalysts with heat and weather resistance)

L26 ANSWER 5 OF 22 ZCAPLUS COPYRIGHT 2002 ACS  
2000:526793 Document No. 133:136411 Fluoropolymer compositions for covering fluorescent lamps, the ultraviolet-shielding covers, and the lamps. Taya, Hiroshi; Nagashima, Masako; Kanno, Toshio; Tanonaka, Yuji (Asahi Glass Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2000212360 A2 20000802, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-19025 19990127.

AB The compns. contain composite particles contg. aggregates of ZnO particles covered with amorphous SiO<sub>2</sub>. The covers are films or tubes and the covers used in the fluorescent lamps show good shielding effect to .ltoreq.360-nm UV. Thus, reacting aq. ZnCl<sub>2</sub> and CO<sub>2</sub>, adding (EtO)<sub>4</sub>Si EtOH soln. on the resulted ZnCO<sub>3</sub> particles at 60.degree. to ppt. amorphous SiO<sub>2</sub> on the particles, and sintering the particles at 500.degree. for 1 h gave composite particles, 200 g of which were treated with a mixt. of Et(MeO)<sub>3</sub>Si and MeOH and dried at 120.degree. for 1 h to give another composite particles. Then, 80 of the finally obtained particles were mixed with 4 kg ethylene-tetrafluoroethylene copolymer (Aflon COP C-88AX), pelletized at 320.degree., and extruded to give a tube, which was drawn at 150.degree. then a fluorescent lamp was inserted into the tube. The lamp showed total light transmittance at 330-360 nm .ltoreq.9% and the transmittance at 400-700 nm 80-88%.

IT 25101-47-7, Chlorotrifluoroethylene-hexafluoropropylene-vinylidene fluoride copolymer  
(fluoropolymer compns. contg. silica-coated zinc oxide particles for UV-shielding cover for fluorescent lamps)

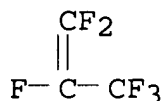
RN 25101-47-7 ZCAPLUS

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with chlorotrifluoroethene and 1,1-difluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

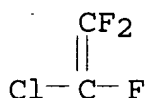
CMF C3 F6



CM 2

CRN 79-38-9

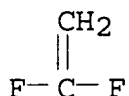
CMF C2 Cl F3



CM 3

CRN 75-38-7

CMF C2 H2 F2



IT 25101-47-7, Chlorotrifluoroethylene-hexafluoropropylene-vinylidene fluoride copolymer  
(fluoropolymer compns. contg. silica-coated zinc oxide particles for UV-shielding cover for fluorescent lamps)

L26 ANSWER 6 OF 22 ZCAPLUS COPYRIGHT 2002 ACS  
1999:175700 Document No. 130:224395 Room-temperature coalescable aqueous fluoropolymer dispersions and their manufacture. McCarthy, Thomas F.; Chen, Yan; Petersen, Peter (Alliedsignal Inc., USA). U.S. US 5880204 A 19990309, 11 pp. (English). CODEN: USXXAM. APPLICATION: US 1996-717446 19960920.

AB The title dispersions are the result of the polymn. to produce and first semi-cryst. fluoropolymer and the polymn. to produce a second amorphous fluoropolymer which envelopes the first fluoropolymer. The title dispersions may be used in high temp. thermoplastic coatings, polishes, room temp. formable paints and coatings, extrudable or injection moldable resins, and adhesives. Thus, a dispersion of chlorotrifluoroethylene-itaconic acid-vinylidene fluoride copolymer (made in a 2 step polymn.) was blended with Triton XL 80N surfactant, NH4OH, and Pfaz 322 crosslinker, dild.

with water, spread onto a polycarbonate surface, and allowed to dry to a film having tensile strength at break 463 psi, elongation at break 468%, tensile modulus 3014 psi, and Taber abrasion wear loss 0.184 (ASTM D 4060-90) mg2.

IT 221071-48-3P, Chlorotrifluoroethylene-hexafluoropropene-2-hydroxypropyl acrylate-vinylidene fluoride-vinyl caproate copolymer (room-temp. coalescable aq. fluoropolymer dispersion manuf. for use in coating films, floor polish, and adhesives)

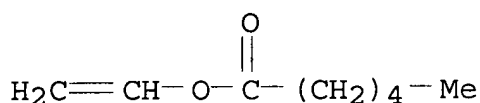
RN 221071-48-3 ZCAPLUS

CN Hexanoic acid, ethenyl ester, polymer with chlorotrifluoroethene, 1,1-difluoroethene, 1,1,2,3,3,3-hexafluoro-1-propene and 2-hydroxypropyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 3050-69-9

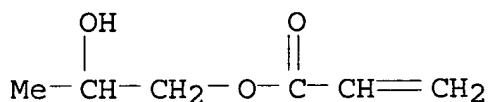
CMF C8 H14 O2



CM 2

CRN 999-61-1

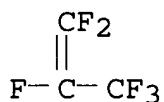
CMF C6 H10 O3



CM 3

CRN 116-15-4

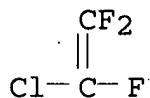
CMF C3 F6



CM 4

CRN 79-38-9

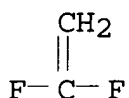
CMF C2 Cl F3



CM 5

CRN 75-38-7

CMF C2 H2 F2



IT 221071-48-3P, Chlorotrifluoroethylene-hexafluoropropene-2-hydroxypropyl acrylate-vinylidene fluoride-vinyl caproate copolymer (room-temp. coalescable aq. fluoropolymer dispersion manuf. for use in coating films, floor polish, and adhesives)

L26 ANSWER 7 OF 22 ZCAPLUS COPYRIGHT 2002 ACS  
1999:64580 Document No. 130:126176 Process for producing fluorine-containing elastomer. Saito, Satoru; Tatsu, Haruyoshi (Nippon Mektron, Limited, Japan). Eur. Pat. Appl. EP 891995 A1 19990120, 14 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 1998-113399 19980717. PRIORITY: JP 1997-209863 19970718.

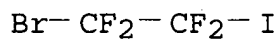
AB Fluorine-contg. elastomers produced through copolymn. reaction of vinylidene fluoride, tetrafluoroethylene, perfluoro(lower alkyl vinyl ether) and chlorotrifluoroethylene in the presence of a bromine-contg. monomer compd. and an iodine- and bromine-contg. compd., where hexafluoropropene can be further copolymd., have not only a distinguished resistance to amine-based additives and also distinguished low-temp. characteristic and engine oil resistance, and also a lower cost attained by reduced copolymer proportion of perfluoro(lower alkyl vinyl ether).

IT 219852-00-3P  
(rubber; process for producing fluorine-contg. elastomer)

RN 219852-00-3 ZCAPLUS  
CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, telomer with 2-bromo-1,1-difluoroethene, 1-bromo-1,1,2,2-tetrafluoro-2-iodoethane, chlorotrifluoroethene, 1,1-difluoroethene, tetrafluoroethene and trifluoro(trifluoromethoxy)ethene (9CI) (CA INDEX NAME)

CM 1

CRN 421-70-5  
CMF C2 Br F4 I

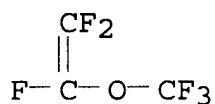


CM 2

CRN 219851-99-7  
CMF (C3 F6 O . C3 F6 . C2 H2 F2 . C2 H Br F2 . C2 Cl F3 . C2 F4)x  
CCI PMS

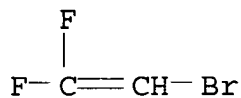
CM 3

CRN 1187-93-5  
CMF C3 F6 O



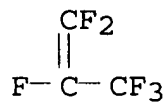
CM 4

CRN 359-08-0  
CMF C2 H Br F2



CM 5

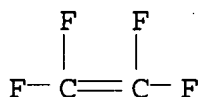
CRN 116-15-4  
CMF C3 F6



CM 6

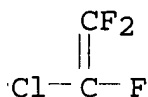


CRN 116-14-3  
CMF C2 F4



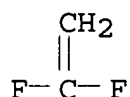
CM 7

CRN 79-38-9  
CMF C2 Cl F3



CM 8

CRN 75-38-7  
CMF C2 H2 F2



IT 219852-00-3P

(rubber; process for producing fluorine-contg. elastomer)

L26 ANSWER 8 OF 22 ZCAPLUS COPYRIGHT 2002 ACS

1998:764068 Document No. 130:53786 Rubber-plastic compositions and electric wires and cables. Kimura, Kazushi; Seki, Ikuo; Yamazaki, Takanori; Watanabe, Kiyoshi; Kato, Yoshihisa; Asano, Kenji; Yagiu, Hideki; Sawada, Hideo (Hitachi Cable, Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 10310712 A2 19981124 Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-15229 19980128. PRIORITY: JP 1997-58705 19970313.

AB The title compns. contain fillers treated with polymers having fluoroalkyl groups at 1 end or 2 ends. Thus, a compn. contain JSR EP-1 100, dicumyl peroxide 2, Irganox 1010 0.2, stearic acid 1, CaCO<sub>3</sub> treated with acrylic acid-Me methacrylate copolymer terminated with 2 CFCF<sub>3</sub>OCF<sub>2</sub>CFCF<sub>3</sub>OC<sub>3</sub>F<sub>7</sub> groups 60 parts.

IT 216962-78-6P, Chlorotrifluoroethylene-ethylene-hexafluoropropylene-tetrafluoroethylene-triallyl

isocyanurate-vinylidene fluoride copolymer  
 (rubber-plastic compns. contg. fluoropolymer-treated inorg.  
 fillers for elec. wires and cables)

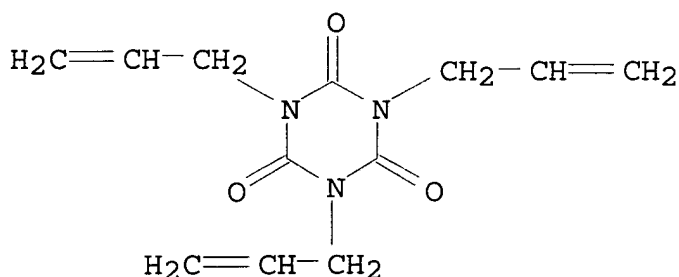
RN 216962-78-6 ZCAPLUS

CN 1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tri-2-propenyl-,  
 polymer with chlorotrifluoroethene, 1,1-difluoroethene, ethene,  
 1,1,2,3,3,3-hexafluoro-1-propene and tetrafluoroethene (9CI) (CA  
 INDEX NAME)

CM 1

CRN 1025-15-6

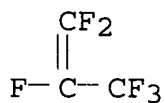
CMF C12 H15 N3 O3



CM 2

CRN 116-15-4

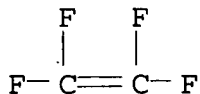
CMF C3 F6



CM 3

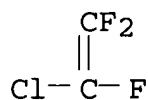
CRN 116-14-3

CMF C2 F4



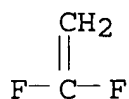
CM 4

CRN 79-38-9  
CMF C2 Cl F3



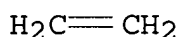
CM 5

CRN 75-38-7  
CMF C2 H2 F2



CM 6

CRN 74-85-1  
CMF C2 H4



IT 216962-78-6P, Chlorotrifluoroethylene-ethylene-hexafluoropropylene-tetrafluoroethylene-triallyl isocyanurate-vinylidene fluoride copolymer (rubber-plastic compns. contg. fluoropolymer-treated inorg. fillers for elec. wires and cables)

L26 ANSWER 9 OF 22 ZCAPLUS COPYRIGHT 2002 ACS  
1998:293745 Document No. 129:4997 Fluorocopolymer aqueous dispersions with improved stability. Enokida, Takashi; Kurihara, Satoshi; Yamada, Okimasa (Nippon Mektron Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 10120858 A2 19980512 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-295650 19961017.

AB The aq. dispersions, useful for coatings, comprise copolymers composed of vinylidene fluoride (I) approx. 70-90, hexafluoropropene (II) approx. 2-30, and chlorotrifluoroethylene (III) approx. 1-10 mol%. Thus, a gaseous mixt. of I, II, and III (mol. ratio 42.3:49.7:8.0) was polyemd. at 80.degree. in H2O 6L, ammonium perfluorooctanoate 20 g, NaOH 2 g, and (NH4)2S2O8 5 g under supplying a gaseous mixt. of I, II, and III (72.5:20.5:7.0) to give an aq. dispersion (I:II:III 72.5:20.5:7.0 mol%) with solid content

IT 40.1 wt.%, av. particle size 125 nm, and good dispersion stability.  
 25101-47-7P 95325-75-0P, Chlorotrifluoroethylene-hexafluoropropene-tetrafluoroethylene-vinylidene fluoride copolymer (fluorocopolymer aq. dispersions with improved stability)

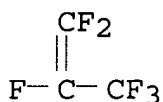
RN 25101-47-7 ZCAPLUS

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with chlorotrifluoroethene and 1,1-difluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

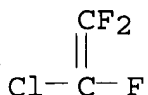
CMF C3 F6



CM 2

CRN 79-38-9

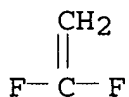
CMF C2 Cl F3



CM 3

CRN 75-38-7

CMF C2 H2 F2



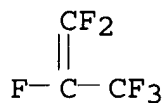
RN 95325-75-0 ZCAPLUS

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with chlorotrifluoroethene, 1,1-difluoroethene and tetrafluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

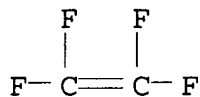
CMF C3 F6



CM 2

CRN 116-14-3

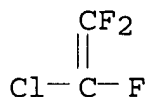
CMF C2 F4



CM 3

CRN 79-38-9

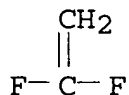
CMF C2 Cl F3



CM 4

CRN 75-38-7

CMF C2 H2 F2



IT 25101-47-7P 95325-75-0P, Chlorotrifluoroethylene-hexafluoropropene-tetrafluoroethylene-vinylidene fluoride copolymer (fluorocopolymer aq. dispersions with improved stability)

L26 ANSWER 10 OF 22 ZCAPLUS COPYRIGHT 2002 ACS  
 1997:681930 Document No. 127:347095 Melt-moldable fluororesin compositions with good resiliency, tensile properties and heat resistance, and manufacture thereof and molding therefrom.  
 Nishimoto, Kazuo; Yamada, Hitoshi; Murakami, Atsushi (Nichias Corp.,

Japan). Jpn. Kokai Tokkyo Koho JP 09268245 A2 19971014 Heisei, 18 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-103315 19960329.

AB The title compns. comprise 10-90% tetrafluoroethylene-hexafluoropropylene-vinylidene fluoride copolymer of sp. gr. .gtoreq.1.93 and 90-10% (un)crosslinked fluororubber. A compn. comprising Viton A 100, THV500G 66.7, MgO 5, Ca(OH)<sub>2</sub> 3, bisphenol AF 2, and Curative 20 1 part and kneaded at 180.degree. for 2 min, 200.degree. for 3 min, and 220.degree. for 5 min was injection-moldable with Shore A hardness 83, limiting strength 94 kg/cm<sup>2</sup>, limiting elongation 256%, tensile strength 86 kg/cm<sup>2</sup>, elongation at break 304%, wt. loss initiation temp. 461.degree., 10% wt.-loss temp. 463.degree., and MEK extractable content 4%.

IT 95325-75-0, Chlorotrifluoroethylene-hexafluoropropene-tetrafluoroethylene-vinylidene fluoride copolymer (rubber; melt-moldable fluoro-resin compns. with good resiliency, tensile properties and heat resistance, and manuf. thereof and molding therefrom)

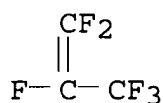
RN 95325-75-0 ZCAPLUS

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with chlorotrifluoroethene, 1,1-difluoroethene and tetrafluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

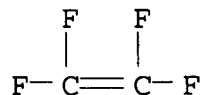
CMF C3 F6



CM 2

CRN 116-14-3

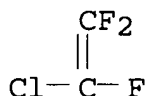
CMF C2 F4



CM 3

CRN 79-38-9

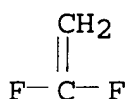
CMF C2 Cl F3



CM 4

CRN 75-38-7

CMF C2 H2 F2



IT 95325-75-0, Chlorotrifluoroethylene-hexafluoropropene-tetrafluoroethylene-vinylidene fluoride copolymer (rubber; melt-moldable fluororesin compns. with good resiliency, tensile properties and heat resistance, and manuf. thereof and molding therefrom)

L26 ANSWER 11 OF 22 ZCAPLUS COPYRIGHT 2002 ACS  
1997:657018 Document No. 127:294468 Elastic fluorohydrocarbon resin and method of producing same. Kawashima, Chikashi; Ishihara, Akira; Kawamura, Katunori; Minegishi, Seiiti (Central Glass Co., Ltd., Japan). Eur. Pat. Appl. EP 798319 A1 19971001, 27 pp. DESIGNATED STATES: R: DE, FR, GB, IT. (English). CODEN: EPXXDW.  
APPLICATION: EP 1996-103004 19960228.

AB This resin is obtained by graft copolymn. of a first segment which is a fluorine-contg. elastomer or a cryst. polymer with a second segment which is the other of these polymers. The first segment is prepd. by copolymg. .gtoreq.1 unsatd. monomer that has a peroxy bond with .gtoreq.1 fluorine-contg. monomer. When the first monomer is dissolved in a first solvent prior to the copolymn., the copolymn. can be safely conducted with higher yield. This first solvent is selected from a carboxylic ester of t-butanol, methylene chloride, 1,1,1-trichloroethane, and first, second, third and fourth compds. which are resp. represented by R1COOR2 (R1 = H, Me, tert-Bu, Cl, F; R2 = Me, Et, Pr, iso-Pr), or C2HxClyFz, C3HxClyFz, and C4HxClyFz (x, y, z = 1-4, 1-6, or 1-8 and x + y + z = 6, 8, or 10, resp.). When the fluorine-contg. elastomeric copolymer as the first segment is purified by contact with a barium salt prior to the graft copolymn., the elastic fluorohydrocarbon resin becomes improved in thermal stability. When the fluorine-contg. elastomeric copolymer having a water content of 0.1-50 wt% as the first segment is dispersed in a liq. medium contg. t-butanol and water, it becomes unnecessary to dry this elastomeric copolymer prior to the graft copolymn. When the fluorine-contg. elastomeric copolymer as the first segment is dispersed in another liq. medium contg. t-butanol, water, a

carboxylic ester and barium hydroxide, the elastic fluorohydrocarbon resin becomes improved in thermal stability with higher graft copolymn. rate.

IT 177859-94-8P

(rubber; elastic fluorohydrocarbon resin and method of producing same)

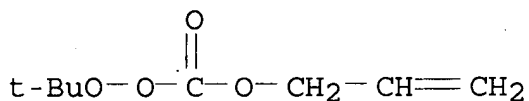
RN 177859-94-8 ZCAPLUS

CN Carbonoperoxoic acid, OO-(1,1-dimethylethyl) O-2-propenyl ester, polymer with chlorotrifluoroethene, 1,1-difluoroethene and 1,1,2,3,3,3-hexafluoro-1-propene, graft (9CI) (CA INDEX NAME)

CM 1

CRN 65700-08-5

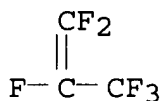
CMF C8 H14 O4



CM 2

CRN 116-15-4

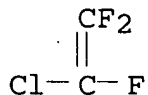
CMF C3 F6



CM 3

CRN 79-38-9

CMF C2 Cl F3

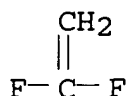


CM 4

CRN 75-38-7

CMF C2 H2 F2





IT 177859-94-8P

(rubber; elastic fluorohydrocarbon resin and method of producing same)

L26 ANSWER 12 OF 22 ZCAPLUS COPYRIGHT 2002 ACS

1996:371539 Document No. 125:34386 Fluorine-containing copolymers having peroxy linkages and flexible graft fluoropolymers manufactured from them. Kawashima, Chikafumi; Ishihara, Akira; Kawamura, Katsunori (Central Glass Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 08067717 A2 19960312 Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1994-204722 19940830.

AB The copolymers with m.p. .gtoreq.130.degree. , having peroxy linkages, are obtained by radical copolymn. of .gtoreq.1 monomers contg. .gtoreq.1 fluoropolymers with monomers having double bonds and peroxy linkages, which are dissolved in tert-BuOH carboxylate esters. The flexible fluoropolymers are obtained by graft copolymn. of the F-contg. copolymers with .gtoreq.1 monomers contg. .gtoreq.1 F-contg. monomers which give polymers with glass-transition temp. (Tg) below room temp. in aq. emulsions or dispersing solvents. Thus, 7.1 g 70% tert-Bu peroxyallyl carbonate tert-Bu acetate soln. was treated with 500 g chlorotrifluoroethylene at 40.degree. for 20 h in 1,1,2-trichlorotrifluoroethane contg. diisopropyl peroxydicarbonate to give a copolymer with m.p. 198.degree. and active O content 0.094%, 150 g of which was then treated with 59 g vinylidene fluoride and 41 g hexafluoropropylene at 95.degree. for 24 h to give a graft copolymer with Tg -19.degree.. The obtained polymer was kneaded and press-molded to give a 1-mm sheet showing breaking strength 185 kg/cm<sup>2</sup>, elongation at break 340%, and hardness 60.

IT 177859-94-8P

(flexible graft fluoropolymers manufd. from peroxy linkage-having F-contg. copolymers)

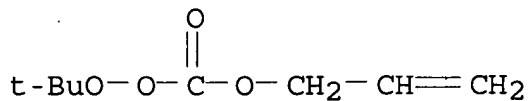
RN 177859-94-8 ZCAPLUS

CN Carbonoperoxoic acid, OO-(1,1-dimethylethyl) O-2-propenyl ester, polymer with chlorotrifluoroethene, 1,1-difluoroethene and 1,1,2,3,3,3-hexafluoro-1-propene, graft (9CI) (CA INDEX NAME)

CM 1

CRN 65700-08-5

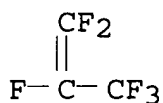
CMF C8 H14 O4



CM 2

CRN 116-15-4

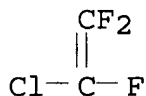
CMF C3 F6



CM 3

CRN 79-38-9

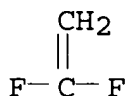
CMF C2 Cl F3



CM 4

CRN 75-38-7

CMF C2 H2 F2



IT 177859-94-8P

(flexible graft fluoropolymers manufd. from peroxy linkage-having  
F-contg. copolymers)

L26 ANSWER 13 OF 22 ZCAPLUS COPYRIGHT 2002 ACS

1995:677189 Document No. 123:58537 Copper salicylaldehyde imine  
complexes as vulcanization accelerators for fluoro rubbers.

Yamashita, Eiichi (Nippon Mektron Ltd., Japan). Ger. Offen. DE

4421752 A1 19950105, 6 pp. (German). CODEN: GWXXBX. APPLICATION:

DE 1994-4421752 19940622. PRIORITY: JP 1993-177363 19930624.

AB Fluoro rubber compns. with improved vulcanization rates and phys. properties contain C<sub>2</sub>ClF<sub>3</sub> copolymers, crosslinking agents, divalent metal oxides as acid acceptors, and (2-HN:CHC<sub>6</sub>H<sub>4</sub>O)<sub>2</sub>Cu (I) as accelerator. A mixt. of 42:58 C<sub>2</sub>ClF<sub>3</sub>-CH<sub>2</sub>:CF<sub>2</sub> copolymer 100, carbon black 15, Ca(OH)<sub>2</sub> 10, MgO 7, ZnO 4, triallyl isocyanurate 3, and I 3 parts had time to reach vulcameter torque .gtoreq.5.0 kg-cm 1.1 min and gave vulcanizates with JIS-A hardness 78, 100% modulus 123 kg/cm<sup>2</sup>, tensile strength 185 kg/cm<sup>2</sup>, elongation 201%, and compression set (70 h, 200.degree.) 48%.

IT 164914-13-0

(rubber; copper salicylaldehyde imine complexes as vulcanization accelerators for fluoro rubbers)

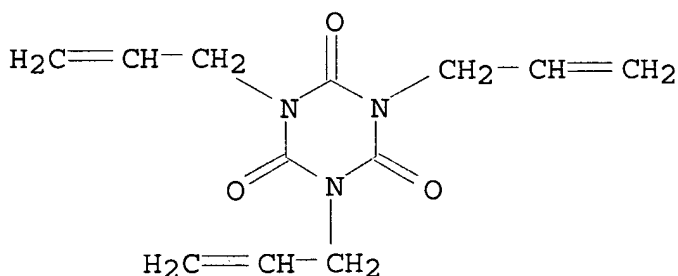
RN 164914-13-0 ZCAPLUS

CN 1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tri-2-propenyl-, polymer with chlorotrifluoroethene, 1,1-difluoroethene and 1,1,2,3,3,3-hexafluoro-1-propene (9CI) (CA INDEX NAME)

CM 1

CRN 1025-15-6

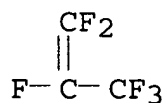
CMF C12 H15 N3 O3



CM 2

CRN 116-15-4

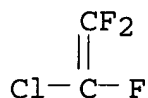
CMF C3 F6



CM 3

CRN 79-38-9

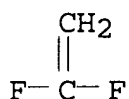
CMF C2 Cl F3



CM 4

CRN 75-38-7

CMF C2 H2 F2



IT 164914-13-0

(rubber; copper salicylaldehyde imine complexes as vulcanization accelerators for fluoro rubbers)

L26 ANSWER 14 OF 22 ZCAPLUS COPYRIGHT 2002 ACS

1994:271539 Document No. 120:271539 Stabilization of iodine-containing fluorocarbon polymers. Tsuda, Nobuhiko; Shimizu, Tetsuo (Daikin Ind Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 05320224 A2 19931203 Heisei, 3 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-133451 19920526.

AB Fluorocarbon polymers contg. I at the terminal branches are stabilized by contacting with Cl gas to substitute I with Cl. Thus, a 10%-solid soln. of an aq. latex of a terminal I-contg. elastomer (0.129% I) was mixed with ammonium perfluorooctanoate then 200 mL of the latex was heated to 60.degree., contacted with Cl gas for 120 min, treated with 2 wt.% aq. soln. of Na2S2O3, then coagulated with 5 wt.% potash alum soln., washed, and dried to give white powder polymer showing I content 0.0082 wt.%. The polymer was irradiated with UV and discoloration was not obsd.

IT 154708-93-7P, Chlorotrifluoroethylene-ethylene-hexafluoropropylene-tetrafluoroethylene-vinylidene fluoride graft copolymer  
(prepn. of, stabilization of, substitution of terminal iodine by chlorine as)

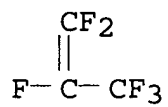
RN 154708-93-7 ZCAPLUS

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with chlorotrifluoroethene, 1,1-difluoroethene, ethene and tetrafluoroethene, graft (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

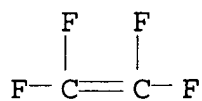
CMF C3 F6



CM 2

CRN 116-14-3

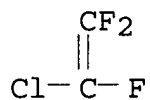
CMF C2 F4



CM 3

CRN 79-38-9

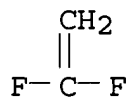
CMF C2 Cl F3



CM 4

CRN 75-38-7

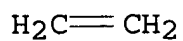
CMF C2 H2 F2



CM 5

CRN 74-85-1

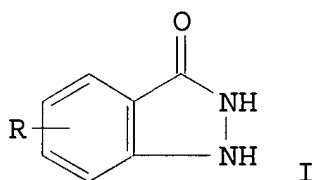
CMF C2 H4



IT 154708-93-7P, Chlorotrifluoroethylene-ethylene-hexafluoropropylene-tetrafluoroethylene-vinylidene fluoride graft copolymer  
(prepn. of, stabilization of, substitution of terminal iodine by chlorine as)

L26 ANSWER 15 OF 22 ZCAPLUS COPYRIGHT 2002 ACS  
1994:257509 Document No. 120:257509 Development accelerator for thermographic materials. Weigel, David C.; Pham, Oanh V. (Minnesota Mining and Mfg. Co., USA). Eur. Pat. Appl. EP 561687 A2 19930922, 9 pp. DESIGNATED STATES: R: BE, GB, NL. (English). CODEN: EPXXDW. APPLICATION: EP 1993-400661 19930316. PRIORITY: US 1992-851843 19920316; US 1992-918555 19920722.

GI



AB Thermog. materials capable of enhanced image formation comprise an image-forming layer comprising a thermally reducible silver source compd., a polymer binder, a toner, an auxiliary reducing agent, and a development accelerator selected from compds. represented by formulas I and  $R_1NHCONHR_2$  ( $R = H$ , halogen,  $R_3CO_2H$ ;  $R_1, R_2 = H$ , C1-10 alkyl or cycloalkyl, or Ph;  $R_3 = C1-4$  alkyl).

IT 25101-47-7, Chlorotrifluoroethylene-hexafluoropropylene-vinylidene fluoride copolymer  
(antistick layers contg., for thermog. materials)

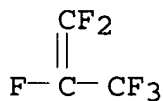
RN 25101-47-7 ZCAPLUS

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with chlorotrifluoroethene and 1,1-difluoroethene (9CI) (CA INDEX NAME)

CM 1

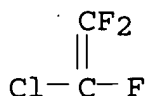
CRN 116-15-4

CMF C3 F6



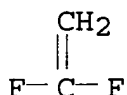
CM 2

CRN 79-38-9  
CMF C2 Cl F3



CM 3

CRN 75-38-7  
CMF C2 H2 F2



IT 25101-47-7, Chlorotrifluoroethylene-hexafluoropropylene-vinylidene fluoride copolymer  
(antistick layers contg., for thermog. materials)

L26 ANSWER 16 OF 22 ZCAPLUS COPYRIGHT 2002 ACS

1985:620854 Document No. 103:220854 Composition for lining a denture base. Masuhara, Eiichi; Hayakawa, Iwao; Bannai, Nobuo; Yasumi, Hideyuki (Kureha Chemical Industry Co., Ltd., Japan). Eur. Pat. Appl. EP 149924 A2 19850731, 24 pp. DESIGNATED STATES: R: DE, FR, GB. (English). CODEN: EPXXDW. APPLICATION: EP 1984-309162 19841231. PRIORITY: JP 1984-394 19840105.

AB A lining compn. for a denture base consists of a polymer whose monomeric compd. is  $\text{CH}_2:\text{C}(\text{RCOR}_1)(\text{I}; \text{R} = \text{H, Me}; \text{R}_1 = \text{F-contg. telomer group})$  100 parts, F-contg. copolymer 3-30, Cl-12-alkyl acrylate or methacrylate 3-30, and a polymn.-initiator 0.1-3.0 parts (wt.). This compn. provides a soft material having fluidity in processing the material for lining and exhibiting hardness with elasticity after being applied as the lining. Thus, a F-contg. telomer was prepd. by introducing di-Pr peroxydicarbonate and MeOH into an autoclave, replacing the air by N, cooling to -30.degree., adding  $\text{CH}_2:\text{CF}_2$ ,  $\text{ClCF}:\text{CF}_2$ , and  $\text{CF}_2:\text{CF}_2$  in a ratio of 50:30:20, and heating to 40.degree. to initiate polymn. The obtained oily substance was treated with  $\text{CH}_2:\text{CMeCOCl}$ ,  $\text{CCl}_4$  and  $\text{Et}_3\text{N}$  to give I ( $\text{R} = \text{Me}$ ,  $\text{R}_2 =$  a residual group formed by removing an OH group from the telomer). A soft copolymer of  $\text{CH}_2:\text{CF}_2\text{-ClCF}:\text{CF}_2\text{-CF}_2:\text{CF}_2$  (50:3:20) 15 and the obtained monomeric compd. 100 g were mixed and heated to 160.degree. and kneaded for .apprx.10 min, followed by cooling to room temp. Bz202 1 and  $\text{CH}_2:\text{CMeCO}_2\text{Me}$  15 g were added to the mixt. and kneaded to obtain a soft putty-like material. The final material was lined on a denture base made of an acrylic resin by pressure and the lined material was heated together with the denture base to 100.degree.,

thereby causing polymn. of the monomers to obtain the elastic and soft resin. The Shore hardness of the test-piece with 36 mm diam. and 7 mm thickness was 23 and no deterioration was obsd. after actual use for 2 yrs.

IT 99330-50-4 99330-52-6

(for denture base lining compn.)

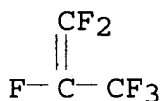
RN 99330-50-4 ZCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with chlorotrifluoroethene, 1,1-difluoroethene and 1,1,2,3,3,3-hexafluoro-1-propene (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

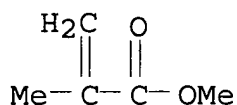
CMF C3 F6



CM 2

CRN 80-62-6

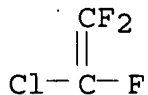
CMF C5 H8 O2



CM 3

CRN 79-38-9

CMF C2 Cl F3

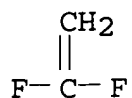


CM 4

CRN 75-38-7

CMF C2 H2 F2

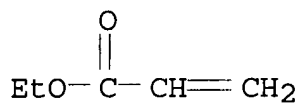




RN 99330-52-6 ZCAPLUS  
CN 2-Propenoic acid, ethyl ester, polymer with chlorotrifluoroethene,  
1,1-difluoroethene and 1,1,2,3,3,3-hexafluoro-1-propene (9CI) (CA  
INDEX NAME)

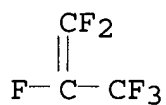
CM 1

CRN 140-88-5  
CMF C5 H8 O2



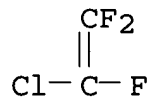
CM 2

CRN 116-15-4  
CMF C3 F6



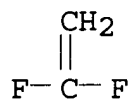
CM 3

CRN 79-38-9  
CMF C2 Cl F3



CM 4

CRN 75-38-7  
CMF C2 H2 F2



IT 93706-14-0P

(prepn. and reaction of, with methacryloyl chloride)

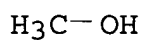
RN 93706-14-0 ZCAPLUS

CN Methanol, telomer with chlorotrifluoroethene, 1,1-difluoroethene and 1,1,2,3,3,3-hexafluoro-1-propene (9CI) (CA INDEX NAME)

CM 1

CRN 67-56-1

CMF C H4 O



CM 2

CRN 25101-47-7

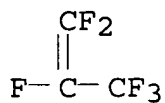
CMF (C3 F6 . C2 H2 F2 . C2 Cl F3)x

CCI PMS

CM 3

CRN 116-15-4

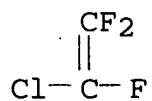
CMF C3 F6



CM 4

CRN 79-38-9

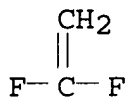
CMF C2 Cl F3



CM 5

CRN 75-38-7

CMF C2 H2 F2



IT 99399-97-0P

(prepn. of, as denture base lining compn.)

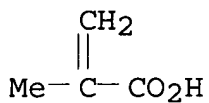
RN 99399-97-0 ZCAPLUS

CN Methanol, telomer with chlorotrifluoroethene, 1,1-difluoroethene and 1,1,2,3,3,3-hexafluoro-1-propene, 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 79-41-4

CMF C4 H6 O2



CM 2

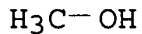
CRN 93706-14-0

CMF (C3 F6 . C2 H2 F2 . C2 Cl F3)x . C H4 O

CM 3

CRN 67-56-1

CMF C H4 O



CM 4

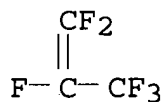
CRN 25101-47-7

CMF (C3 F6 . C2 H2 F2 . C2 Cl F3)x

CCI PMS

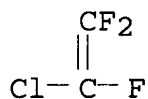
CM 5

CRN 116-15-4  
CMF C3 F6



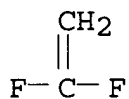
CM 6

CRN 79-38-9  
CMF C2 Cl F3



CM 7

CRN 75-38-7  
CMF C2 H2 F2



IT 99399-96-9P

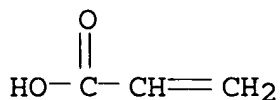
(prepn. of, as denture base lining material)

RN 99399-96-9 ZCAPLUS

CN Methanol, telomer with chlorotrifluoroethene, 1,1-difluoroethene and 1,1,2,3,3,3-hexafluoro-1-propene, 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7  
CMF C3 H4 O2



CM 2

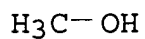
CRN 93706-14-0

CMF (C3 F6 . C2 H2 F2 . C2 Cl F3)x . C H4 O

CM 3

CRN 67-56-1

CMF C H4 O



CM 4

CRN 25101-47-7

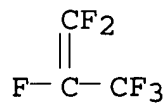
CMF (C3 F6 . C2 H2 F2 . C2 Cl F3)x

CCI PMS

CM 5

CRN 116-15-4

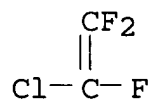
CMF C3 F6



CM 6

CRN 79-38-9

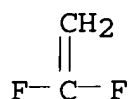
CMF C2 Cl F3



CM 7

CRN 75-38-7

CMF C2 H2 F2



IT 99330-50-4 99330-52-6

(for denture base lining compn.)

IT 93706-14-0P

(prepn. and reaction of, with methacryloyl chloride)

IT 99399-97-0P

(prepn. of, as denture base lining compn.)

IT 99399-96-9P

(prepn. of, as denture base lining material)

L26 ANSWER 17 OF 22 ZCAPLUS COPYRIGHT 2002 ACS

1985:133373 Document No. 102:133373 Fluoroelastomeric compositions based on a copolymer of vinylidene fluoride. Caporiccio, Gerardo; Monza, Enrico; Bonardelli, Piergiorgio; Moggi, Giovanni; Cirillo, Gianna (Montedison S.p.A., Italy). Eur. Pat. Appl. EP 131203 A1 19850116, 29 pp. DESIGNATED STATES: R: BE, CH, DE, FR, GB, LI, NL, SE. (English). CODEN: EPXXDW. APPLICATION: EP 1984-107416 19840627. PRIORITY: IT 1983-21865 19830630; IT 1984-21050 19840523.

AB Fluoroelastomeric compns. having high adhesion to metals comprise copolymers of vinylidene fluoride (I) with chlorotrifluoroethylene (II) and, optionally, with hexafluoropropene (III) and/or tetrafluoroethylene (IV) (copolymer A) mixed with a copolymer of I, II, and, optionally, IV (copolymer B), or alternatively, by employing only one fluoroelastomeric component consisting of a copolymer of I, II, III, and IV. Thus, a compn. comprising 26.8 wt% chlorotrifluoroethylene-hexafluoropropene-vinylidene chloride copolymer [25101-47-7] and 73.2 wt.% hexafluoropropene-vinylidene fluoride copolymer [9011-17-0] was compounded with Bisphenol AF 1.8, with tetrafluoroborate-1-benzyl-N,N',N''-hexamethylphosphoranetriamine accelerator 0.350, MgO 5, Ca(OH)<sub>2</sub> 5, and carbon black MT 25 parts. The compounded rubber was bonded to degreased and sandblasted carbon steel UNI Fe 37A plates with a Chemosil 511 adhesive and vulcanized in press at 175.degree. for 8 min. The vulcanizates had adhesion after vulcanization in a press 53 kg/cm<sup>2</sup> and after post-vulcanization in oven at 250.degree. of 46 kg/cm<sup>2</sup>, vs. 21 and 22, resp. for a similar vulcanizate compn. contg. no II.

IT 95325-75-0

(rubber, adhesion of, to metals, compn. effects on)

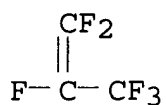
RN 95325-75-0 ZCAPLUS

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with chlorotrifluoroethene, 1,1-difluoroethene and tetrafluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4.

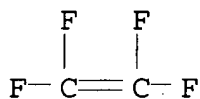
CMF C3 F6



CM 2

CRN 116-14-3

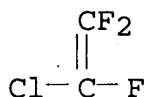
CMF C2 F4



CM 3

CRN 79-38-9

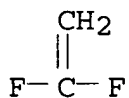
CMF C2 Cl F3



CM 4

CRN 75-38-7

CMF C2 H2 F2



IT 25101-47-7

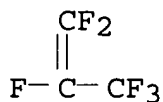
(rubber, fluoro rubber blends, adhesion of, to metals, compn. effect on)

RN 25101-47-7 ZCAPLUS

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with chlorotrifluoroethene and 1,1-difluoroethene (9CI) (CA INDEX NAME)

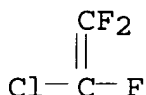
CM 1

CRN 116-15-4  
CMF C3 F6



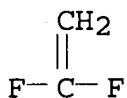
CM 2

CRN 79-38-9  
CMF C2 Cl F3



CM 3

CRN 75-38-7  
CMF C2 H2 F2



IT 95325-75-0

(rubber, adhesion of, to metals, compn. effects on)

IT 25101-47-7

(rubber, fluoro rubber blends; adhesion of, to metals, compn. effect on)

L26 ANSWER 18 OF 22 ZCAPLUS COPYRIGHT 2002 ACS

1985:12439 Document No. 102:12439 Soft denture bases. (Kureha Chemical Industry Co., Ltd., Japan; Masuhara, Eiich; Hayakawa, Iwao). Jpn. Kokai Tokkyo Koho JP 59144708 A2 19840818 Showa, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1983-17212 19830204.

AB Soft denture bases comprise F-contg. copolymers and telomers prepd. from C2-3 fluorinated olefin monomers with or without ethylene or propylene. These denture bases absorb little water and adhere firmly to oral cavities. Thus, a telomer was prepd. by mixing MeOH 5600, dipropylperoxydicarbonate 10, vinylidene fluoride 500, chlorotrifluoroethylene 300, and hexafluoropropylene 200 g. The mol ratio of taxogen/telogen was 1:14.96. This telomer (85 g) was mixed with 15 g chlorotrifluoroethylene-vinylidene fluoride-



hexafluoropropylene copolymer [25101-47-7] (30/50/20) to form a rubber. Properties of this rubber as a denture base are shown.

IT 25101-47-7 93706-14-0

(rubber, for denture base)

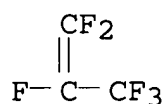
RN 25101-47-7 ZCAPLUS

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with chlorotrifluoroethene and 1,1-difluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

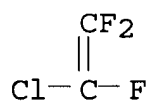
CMF C3 F6



CM 2

CRN 79-38-9

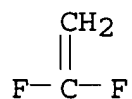
CMF C2 Cl F3



CM 3

CRN 75-38-7

CMF C2 H2 F2



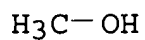
RN 93706-14-0 ZCAPLUS

CN Methanol, telomer with chlorotrifluoroethene, 1,1-difluoroethene and 1,1,2,3,3,3-hexafluoro-1-propene (9CI) (CA INDEX NAME)

CM 1

CRN 67-56-1

CMF C H4 O



CM 2

CRN 25101-47-7

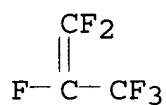
CMF (C3 F6 . C2 H2 F2 . C2 Cl F3)x

CCI PMS

CM 3

CRN 116-15-4

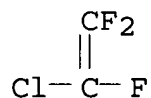
CMF C3 F6



CM 4

CRN 79-38-9

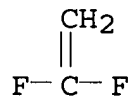
CMF C2 Cl F3



CM 5

CRN 75-38-7

CMF C2 H2 F2



IT 25101-47-7 93706-14-0  
(rubber, for denture base)

L26 ANSWER 19 OF 22 ZCAPLUS COPYRIGHT 2002 ACS  
1984:631769 Document No. 101:231769 Elastic fluorohydrocarbon resin.

Kawashima, Chikashi; Yasumura, Takashi (Central Glass Co., Ltd. , Japan). U.S. US 4472557 A 19840918, 8 pp. (English). CODEN: USXXAM. APPLICATION: US 1983-495949 19830519.

AB Elastic fluorohydrocarbon resin that retains favorable properties of known fluorohydrocarbon polymers is prep'd. by graft copolymn. of a F-contg. elastomer with a F-contg. cryst. polymer. Either the elastomeric or cryst. polymer is prep'd. by copolymg. at least one F-contg. monomer with at least one peroxy-contg. unsatd. monomer. Thus, 250 g vinylidene fluoride (I) was polymd. with 151 g chlorotrifluoroethylene and 2 g tert-butylperoxy allyl carbonate (II) at 50.degree. in the presence of K2S2O8 and ammonium perfluorooctenoate to give a rubberlike powder. The copolymer was then graft polymd. in Freon R-113 with 30 g I at 95.degree. for 24 h. The graft copolymer [89823-13-2] was kneaded and pressed-shaped into a 1-mm-thick sheet having break strength 279 kg/cm<sup>2</sup>, elongation at break 470.degree., complex modulus of elasticity at 60.degree. 9.5 .times. 108 dyne/cm<sup>2</sup>, and Shore D hardness 43, vs. 139, 235, 8.5 .times. 108, and 45 for a similar copolymer, but prep'd. without using II.

IT 89823-12-1P

(graft, rubber, manuf. and properties of)

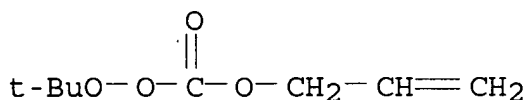
RN 89823-12-1 ZCAPLUS

CN Carbonoperoxoic acid, OO-(1,1-dimethylethyl) O-2-propenyl ester, polymer with chlorotrifluoroethene, 1,1-difluoroethene and 1,1,2,3,3,3-hexafluoro-1-propene (9CI) (CA INDEX NAME)

CM 1

CRN 65700-08-5

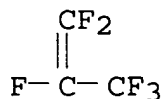
CMF C8 H14 O4



CM 2

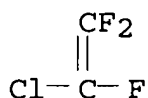
CRN 116-15-4

CMF C3 F6



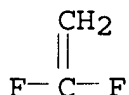
CM 3

CRN 79-38-9  
CMF C2 Cl F3



CM 4

CRN 75-38-7  
CMF C2 H2 F2



IT 89823-12-1P  
(graft, rubber, manuf. and properties of)

L26 ANSWER 20 OF 22 ZCAPLUS COPYRIGHT 2002 ACS  
1984:439683 Document No. 101:39683 Vulcanizing fluorocarbon elastomers  
with (allyloxy)phenols. Guenther, Richard A.; Stivers, David A.  
(Minnesota Mining and Mfg. Co. , USA). U.S. US 4446270 A 19840501,  
10 pp. Cont.-in-part of U.S. Ser. No. 443,576, abandoned.  
(English). CODEN: USXXAM. APPLICATION: US 1983-520303 19830808.  
PRIORITY: US 1982-443576 19821122.

AB Vinylidene fluoride copolymer rubbers are vulcanized by the title  
comps. Thus, 20:80 C3F6-CH2:CF2 polymer [9011-17-0] was  
vulcanized using PhCH2PPh3+ Cl- [1100-88-5] as vulcanization  
accelerator and 27.1-47.4 bisphenol AF-bisphenol AF monoallyl ether  
[90999-94-3] as vulcanizing agent, giving tensile strength 10.3 MPa,  
elongation 350%, Shore A-2 hardness 72, 100% modulus 3.69 MPA, and  
tear strength 20.0 kg/cm.

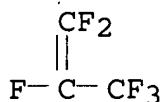
IT 25101-47-7  
(rubber, vulcanizing agents for, (allyloxy)phenols as)

RN 25101-47-7 ZCAPLUS

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with  
chlorotrifluoroethene and 1,1-difluoroethene (9CI) (CA INDEX NAME)

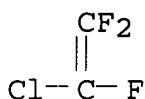
CM 1

CRN 116-15-4  
CMF C3 F6



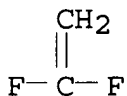
CM 2

CRN 79-38-9  
CMF C2 Cl F3



CM 3

CRN 75-38-7  
CMF C2 H2 F2



IT 25101-47-7

(rubber, vulcanizing agents for, (allyloxy)phenols as)

L26 ANSWER 21 OF 22 ZCAPLUS COPYRIGHT 2002 ACS

1984:176239 Document No. 100:176239 Soft fluoropolymers. (Central Glass Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 58206615 A2 19831201 Showa, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1982-88053 19820526.

AB The title polymers were prepd. by copolymn. of F-contg. monomer(s) with a monomer contg. an unsatd. group and a peroxy group to give an elastomer with glass transition temp. below room temp., followed by grafting of the peroxy group-contg. copolymer with F-contg. monomer(s) [forming cryst. homopolymer(s) with m.p. >130.degree.] in aq. medium. Thus, water 1000, K2S2O8 2, NH4 perfluorooctanoate 3, tert-Bu allyl percarbonate 2, vinylidene fluoride 250, and chlorotrifluoroethylene 151 g were heated at 50.degree. for 20 h to give a rubbery copolymer with glass transition temp. -21.degree.. The rubbery copolymer 60, Flon R 113, 375, and vinylidene fluoride 30 g were heated at 95.degree. for 24 h to give graft copolymer [89823-13-2] forming a 1-mm, semitransparent hot-press (200.degree.) sheet having tensile strength 279 kg/cm<sup>2</sup>, elongation at break 470.degree., complex modulus 9.8 .times. 10<sup>9</sup> and 9.5 .times. 10<sup>8</sup> at

0.degree. and 60.degree., resp., and Shore D hardness 43, compared with 390-520, 100-300, 2.7 .times. 1010, 8.9 .times. 109, and 75, resp., for poly(vinylidene fluoride).

IT 89823-12-1

(graft, rubber, soft)

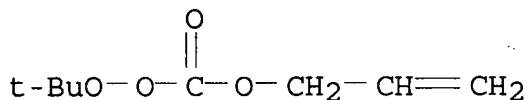
RN 89823-12-1 ZCAPLUS

CN Carbonoperoxoic acid, OO-(1,1-dimethylethyl) O-2-propenyl ester, polymer with chlorotrifluoroethene, 1,1-difluoroethene and 1,1,2,3,3,3-hexafluoro-1-propene (9CI) (CA INDEX NAME)

CM 1

CRN 65700-08-5

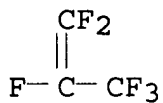
CMF C8 H14 O4



CM 2

CRN 116-15-4

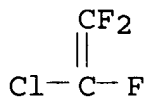
CMF C3 F6



CM 3

CRN 79-38-9

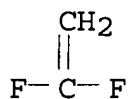
CMF C2 Cl F3



CM 4

CRN 75-38-7

CMF C2 H2 F2



IT 89823-12-1  
(graft, rubber, soft)

L26 ANSWER 22 OF 22 ZCAPLUS COPYRIGHT 2002 ACS  
1977:156802 Document No. 86:156802 Liquid-resistant terpolymer masses.  
West, Arthur C., III (Minnesota Mining and Mfg. Co., USA). Ger.  
Offen. DE 2641769 19770317, 25 pp. (German). CODEN: GWXXBX.  
APPLICATION: DE 1976-2641769 19760914.

AB Elastomeric copolymers are prepd. which contain F2C:CH2 55-65,  
F2C:CFCF3 30-40, and F2C:CClF 1-5 mole%. The copolymers have good  
resistance to heat and solvents and are esp. useful as O-rings,  
seals, and gaskets. The copolymers are vulcanized with amine or  
phenolic hardeners.

IT 25101-47-7  
(rubber, heat- and solvent-resistant)

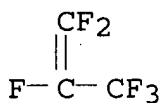
RN 25101-47-7 ZCAPLUS

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with  
chlorotrifluoroethene and 1,1-difluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

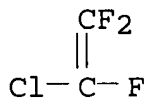
CMF C3 F6



CM 2

CRN 79-38-9

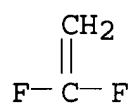
CMF C2 Cl F3



CM 3

CRN 75-38-7

CMF C2 H2 F2



IT 25101-47-7  
(rubber, heat- and solvent-resistant)